GETTING DOWN TO FACTS II

Technical Report

Early Childhood Education in California

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Stanford University

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About: The Getting Down to Facts project seeks to create a common evidence base for understanding the current state of California school systems and lay the foundation for substantive conversations about what education policies should be sustained and what might be improved to ensure increased opportunity and success for all students in California in the decades ahead. Getting Down to Facts II follows approximately a decade after the first Getting Down to Facts effort in 2007. This technical report is one of 35 in the set of Getting Down to Facts II studies that cover four main areas related to state education policy: student success, governance, personnel and funding.

Stanford University
PACE Policy Analysis for California Education

Early Childhood Education in California

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PREFACE

California's future depends on the well-being and education of its youth. And the evidence is compelling—for children to thrive, they need to be well supported from the beginning of life. Research in neuroscience has revealed that the very foundation of future development and learning is laid during the first five years of life. The most rapid growth of the areas of the brain responsible for language occurs during the first two years of life, and the prefrontal cortex, where crucially important skills related to self-regulation, memory, attention, and planning are based, develops most rapidly between the ages of 3 and 5.[1] The extent and nature of brain development depend substantially on interactions with adults and the level of stress young children experience.

The importance of the environment is evident in the early achievement gap. By age 18 months, differences based on family income and education are seen in children's language development.[2] Risk factors such as such as poverty, caregiver mental illness, child maltreatment, a single-parent household, and low maternal education contribute significantly to the likelihood that a child will have developmental delays. With one in five children in California living in poverty and nearly half living near poverty, these risk factors pervade California's families.

California has one of the largest achievement gaps in the country. But as the chapter on the achievement gap in the GDTFII report shows, California's poor performance relative to that of other states lies not in the gains students make from third grade on, but in the disproportionate achievement gap when children enter kindergarten.[3] Efforts to close the achievement gap clearly need to begin long before school entry.

The good news is that we know more than ever about what needs to be done to support young children's learning and development. For decades, evidence on the nature and value of supportive environments and early interventions was based substantially on a few small and expensive interventions. We now have strong evidence that early intervention can be done at scale with long-term benefits—both for the participating children and for society. Studies have repeatedly shown substantial financial returns on early investments in young children.[4] For example, children who attend high-quality preschool, especially those who are dual language learners or living in poverty, are less likely to be held back a year in school, be placed in a special education setting or become involved in crime. They are more likely to graduate from high school and go to college, and they achieve higher earnings.[5]

Supporting young children means supporting families. In addition to promoting positive child outcomes, making reliable, high-quality child care accessible to parents can have immediate effects on the economic well-being of the state. One analysis estimated that child care breakdowns leading to employee absences cost businesses $3 billion annually in the United States.[6] And research indicates that access to child-care directly affects participation as well as the productivity of women in the workforce by reducing absenteeism and turnover.[7]

California once led the nation in early childhood education. The currently large achievement gap is in part the result of a significant decline in the level of investment in its youngest children. It is time to reverse that trend, and for California to once again become a leader in supporting families and young children, especially the substantial population of very vulnerable children.

This report reviews and analyzes California policies that are designed to support early learning in children from birth through age five years. The analysis is limited to EC education-related programs and supports that are likely to directly affect children's cognitive and social development. Although all aspects of children's experiences affect their development, to make the report manageable, social services (e.g., related to child abuse and neglect or housing), nutrition programs, and health care services are not included.

The information in the report comes primarily from state and locally collected data from original sources, extant reports that summarize information related to the topic, and research on effective early childhood practices and policies. Added to this information are findings from interviews with people who have firsthand experience and knowledge of early childhood programs and resources in California.

The chapters include objective reviews of the facts and te evidence as well as the experiences, observations, and recommendations of people who live" the policies. The goal is to inform, not to persuade. The document should, however, provide guidance for advocates and policymakers endeavoring to increase support and opportunities for young children in the state.

For each topic, described below, the report examines:

- The current situation in California—including current resources, governance and administration, access for different groups of children, and unmet needs;
- Research, expert opinion, and other evidence on best practices related to the topic;
- An analysis of how well California policies and practices meet the standards for what is known about best practices;
- Policy options, including examples of effective policies implemented in other states;
- Data identified in the process of the review that need to be collected to inform future practice and policy decisions.

The report is divided into seven chapters, described below.

1. **The Early Learning Landscape**
   This chapter summarizes information on who the children from 0-5 years are (e.g., demographics, native language), where they are cared for (e.g., home care, center day care, licensed and licensed-exempt family care), and what public resources are available for families and children from 0-5 years for child care, preschool, and transitional kindergarten. It also summarizes sources and amounts of funding, governance at the

state and local levels, eligibility requirements, participation rates, unmet needs, coordination and fragmentation, and the pros and cons of various governance and delivery systems.

2. **Early Learning for Children with Disabilities**
   This chapter describes who the children from 0-5 years with special needs are (e.g., demographics), how screening is done (and who is and is not screened), what interventions are available to children with disabilities (who is served, by whom), how resources for families and children are funded, and what training and qualifications are held by the personnel who serve children with disabilities.

3. **Preparation and Training for Professionals in Early Childhood Education**
   Included in this chapter are 1) a summary of the current permit requirements and training programs for child care professionals, teachers, and administrators; 2) information on how California compares to other states; 3) expert and research-based opinion on effective teacher preparation; 3) an analysis of how well the current Child Development Permit system works; 4) a summary of recent proposals for improving it; and 5) an analysis of changes that would need to be made in the higher education system if the requirements were increased.

4. **Strengthening California's Early Childhood Education Workforce**
   The chapter summarizes data and research on 1) who has permits for different categories of work and trends; 2) issues of access and cost for preparation programs; 3) availability and turnover; 4) comparisons to other states; 5) well-being (e.g., mental health) of the workforce; and 6) workplace variables that affect well-being and turnover.

5. **Program Quality Monitoring and Improvement**
   In this chapter, we review the current levers used by California to ensure EC program quality and the evidence on how well each lever is working, including: 1) program licensing; 2) program monitoring (e.g., the Quality Rating and Improvement System (QRIS)); and 3) resources and supports for improvement (e.g., professional development, coaching). Comparisons are made to other states, and research on the effectiveness of various strategies for program improvement is reviewed.

6. **PreK-3 Alignment**
   Included in this chapter is a review of 1) the state's and some districts' efforts to improve the coherence and continuity between preschool and the early elementary grades; 2) evidence on the effects of these efforts; and 3) state policies that support or interfere with alignment.

7. **Early Child Care Data Systems**
   The last chapter discusses data that needs to be collected in California to inform policy decisions, including data: 1) that tracks children's skill development from preschool

through K-12; 2) that provides information on extant programs and availability of spaces; and 3) on the workforce.

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CHAPTER 1. THE EARLY LEARNING LANDSCAPE

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Policy makers and child advocates have debated for decades the question of whether public support for young children should be designed to educate young children or to enable parents to work or attend school. The recent evidence on early brain development and the importance of laying a strong foundation in the early years suggests the importance of a high-quality, socially supportive, and educational environment for young children. But the ambivalence of policy makers on the purposes of public support for early childhood is still seen in the conglomeration of programs with different goals and standards.

California offers an array of early care and education programs and services. This chapter examines a set of questions related to resources and support for children from birth to five years:

- Who are California's young children aged 0 to five years?
- Where are they cared for?
- What publicly supported early learning programs are offered to children 0-5?
- How are California's publicly funded early childhood education (ECE) programs funded and managed?
- What is the unmet need for licensed care and early learning programs?

Who Are the Children 0-5 Years?

In 2016, over 3 million children aged birth through five years resided in California.[1] About one in eight children in the US under the age of five years lives in California.[2] Of children under age 18 in California, 27% are under the age of six years.[3]

A vast majority of California's young children are of color. More than half—52%—of children under five years old are Latino; 5% are Black, 11% are Asian, and 26% are non-Hispanic White.[4]

About one-half of the children under 18 years in California are foreign-born or reside with at least one foreign-born parent.[5] Of children 0-5 years in California, 45% live in immigrant families.

In 2011-2015, dual language learners (DLLs) comprised 60% of the child population (aged 0-8 years) in California. About a third of DLLs under age nine are 0-2 years old, and about a fourth are 2-4 years old. Most (71%) are Hispanic. More than a third of the children entering kindergarten in California are DLLs.[6] Compared to the nation as a whole, California has about twice as many children 0–5 years who are first- or second-generation immigrants and live in families in which the adults are not fluent in English.[7] Young DLLs are at significant risk, given that 29% of children 0-8 years old are in families below the federal poverty line and the same proportion have parents who do not have a high school diploma.[8]

Large numbers of California's young children live in or near poverty. About one in five children aged 0-5 years live below the official federal poverty line (which in 2017 was $24,600 for a family of four).[9] Including families that live near poverty (below 200% of the poverty line) as well as in poverty, almost one-half (46% in 2015) of children in California live in very low-income households. Based on the Supplemental Poverty Measure (SPM), which is adjusted for geographical variation in the cost of living, California's childhood poverty rate for children under 18 years is the worst in the nation, at 24%.[10] Only the District of Columbia has a higher rate (27%).

There are significant ethnic and racial background differences in the poverty rate. Black (30%) and Latino (27%) children experience poverty at about three times the rate of white (10%) and Asian (12%) children under 18 in California.[11]

The poverty rate also differs by counties within the state. From 2013 to 2015, Santa Cruz County had the highest child poverty rate in California, at 29.8%. Santa Barbara (28.8%) and Los Angeles (28.3%) also had particularly high rates. Placer County had the lowest poverty rate among children (11.8%). Child poverty rates vary even more widely (from 7% to 49%) across state assembly, state senate, and US congressional districts.[12]

Where Are Children 0-5 Years Cared For?

It is impossible to determine accurately where California's young children receive care. The enrollment data on licensed and publicly funded programs for infants and toddlers are not available in one central location and are rarely disaggregated by age cohort. Without unique child identifiers, we cannot determine how many children are being served by more than one program, and data on enrollment in privately-funded exempt settings are extremely limited. Age cohorts are also defined differently—for example, the label "infants and toddlers" sometimes includes children birth to two years (24 months) and sometimes includes children under age three (36 months).

Typically, three- and four-year-old children are enrolled in center-based services. Families needing full-day arrangements for three- and four-year-olds often combine a part-day center-based program with home-based care for the rest of the day. Infants and toddlers are more likely to participate in home-based arrangements, mostly unlicensed. As of 2012, at most 4% of the state's infants and toddlers attended licensed center-based programs, and another 8% were in licensed family child care homes.[13]

The data provided here, which are the most recent available, come from different sources and from different years. The data in the table below, showing where children 0-5 years in California were cared for, are based on the 2016 California Health Interview Survey (CHIS).[14] The US data are from the 2016 Early Childhood Program Participation Survey (ECPPS).[15]

Table 1. ECE Arrangements for Children in California and the US 2016[1]

Setting Type	Zero to Two-Year-Olds	Three-Year-Olds	Four-Year-Olds	Five-Year-Olds
California				
Relative care	33%	6%	14%	24%
Non-relative care	16%	11%	12%	8%
Head Start or state program	1%	7%	4%	1%
Preschool or nursery school	0%	0%	5%	0%
Child care center	7%	0%	3%	0%
Other or more than one source	43%	76%	63%	66%
Total N (weighted)	593,608	206,565	265,584	147,202
United States				
Relative care	41%	25%	18%	13%
Non-relative care	22%	14%	10%	3%
Center-based program	34%	58%	69%	81%
More than one source	3%	3%	3%	3%
Total N (weighted)	6,856,155	2,323,909	2,597,842	975,076

In California, 39.6% of children aged 3-5 years were *not* enrolled in preschool or kindergarten in 2014. Participation rates in preschool vary substantially by age and race/ethnicity, as seen in the tables below.[16] These data predate transitional kindergarten (TK), which began in 2014-15. In 2016, 18% of the state's four-year-olds were enrolled in TK, so the current proportion of four-year-olds who are not enrolled in preschool or kindergarten is lower than indicated in the graph from 2014.

[1] Tabulations are weighted. For the 2016 CHIS, the person-level weights computed were adjusted for within-household sampling of persons and for non-response. The person-level weights were then adjusted using weight calibration, a procedure that forced CHIS weights to sum the estimated population controls (from the California Department of Finance's 2015 and 2016 Population Estimates) simultaneously. For the 2016 ECPPS, the person-level weights were the product of household weights and five adjustment factors (e.g., within-household sampling of persons, non-response). The rows represent separate questions. For each question, the percentages are based on the number of children for whom the response was "yes" to that question divided by the total number of children in each age group.

Table 2. Children Ages 3-5 *Not* Enrolled in Preschool or Kindergarten in 2014

	3-year-olds	4-year-olds	5-year-olds
California	64.9	39.4	11.9
US	66.1	39.8	14.0

	African American/Black	Asian American	Hispanic/Latino	White
California	39.3	33.7	44.8	33.7
US	36.4	34.9	45.2	39.2

In 2011-2015, DLL children aged three and four years were less likely to be enrolled in preschool (56.6%) than non-DLL children (47.9%).[17] Participation rates also varied substantially by assembly district, ranging from 49% to 81% of three- to five-year-olds enrolled in preschool or kindergarten in 2014.[18]

Publicly Supported Preschool and Child Care Programs for Children 0-5 Years

In 2016-17, California provided 434,000 children with subsidized child care and preschool. Of these children, 12% were ages birth through age two years, 59% were ages three and four years, and 29% were age five or older. [19] The funds are allocated under nine state programs, three of which are under California Work Opportunity and Responsibility to Kids (CalWORKs), which is available to families that are in or transitioning out of welfare-to-work programs. The federal government also subsidizes child care and preschool in the state.

Children are eligible to participate in an array of publicly supported preschool and child care programs in California, primarily (although not exclusively) on the basis of income. Some of these programs (under Title 5) are held to school-readiness-focused standards; some (under Title 22) are required to meet only licensing standards that focus on health and safety, and others are exempt from licensing altogether (see Chapter 5 for details on these standards).

The principal publicly supported programs available include state preschool, transitional kindergarten, General Child Care and Development, Alternative Payment (CalWORKs and non-CalWORKs), and Head Start/Early Head Start (which is federally funded and managed). Each of these programs is described below.

State Preschool

State preschool is a state-funded and state-administered part-day (3 hours) part-year program for three- and four-year-olds in low-income families, and full-day (6 hours) full-year program for three- and four-year olds in low-income working families. Families are eligible if their incomes are at or below 70% of the current State Median Income (SMI; $58,524 for a family of four in 2017-18[20]). Children in these families can remain eligible to participate in state preschool until the family income reaches 85% of the current SMI. Children who are homeless, who receive CalWORKs cash assistance or protective services, or who are at risk of abuse, neglect, or exploitation are also eligible for state preschool in California. According to the National Institute for Early Education Research, California's income eligibility requirements are similar to those of other states. Only Georgia allows a higher income (250% of the federal poverty level, which in 2017 was $70,725 for a family of four). But at least 11 states and the District of Columbia have no income requirement, and specific localities in some states (e.g., New Jersey Abbott districts, New York City) have no income requirement. State preschools must meet Title 5 standards to be licensed.

Transitional Kindergarten

Transitional kindergarten (TK), authorized by California's Kindergarten Readiness Program of 2010, serves children who reach the age of five years between September 2nd and December 2nd. There are no income eligibility requirements. TK is a school-based program, administered by a school district or charter school. The length of the day is the same as the kindergarten day in the school where the TK is based; approximately two-thirds of TK programs offer a full day and one-third a half day. TK programs do not need to meet either Title 22 or Title 5 licensing standards. Instead, they meet the standards of public school kindergarten, modified to be developmentally appropriate.[21]

General Child Care and Development

General Child Care and Development programs provide funding for child care services intended to support the needs of children birth through 12 years whose parents meet the same income eligibility requirements as those for state preschool and are working or going to school. The initial income eligibility level is high relative to all but 10 other states and the District of Columbia.[22] Licensed centers and family child care homes (FCCHs) that meet Title 5 requirements contract with the state. Some spaces within these programs are dedicated to migrant children.

Alternative Payment Programs

Vouchers are provided to low-income families with children under 13 to use in either licensed centers or licensed and license-exempt FCCHs through the state's welfare program. The state guarantees subsidies for CalWORKs families from their initial participation until two years after they stop receiving cash aid (known as CalWORKs Stage 1 and 2). Non-CalWORKs and former CalWORKs child care recipients are eligible if their incomes are less than 70% of the state's SMI. The services also include a special program for migrant children. The funding is capped, which means that not all eligible children can be served. These programs also have the

lowest standards in the state, as some settings in which vouchers are used are exempt from even the minimal (Title 22) licensing requirements.

Head Start and Early Head Start

Head Start is a federally funded and federally administered program that provides care and wrap-around services to primarily three- and four-year-old children in families with incomes below the federal poverty line, which was $24,600 for a family of four in 2017. Early Head Start serves children under three years. Children from homeless families and families receiving cash public assistance are also eligible. Head Start children are served in centers, and most Early Head Start children receive home visiting.

The table below summarizes the number of children who participated in each of these programs in 2016-17.

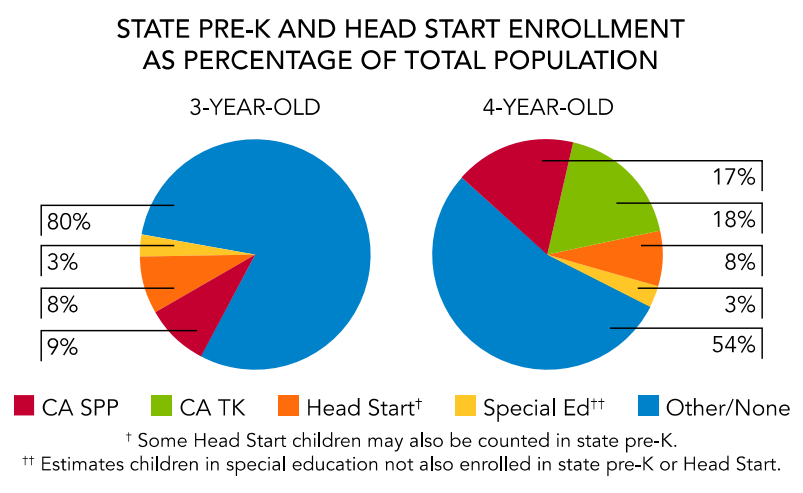
Table 3. Subsidized Numbers of Children 0-5 Served by Principal ECE Programs in 2016-17[23]

Program	Children Enrolled
State Preschool	191,956
Full Day	67,760
Part Day	124,196
Transitional Kindergarten[2]	100,768
General Child Care and Development	38,394
Alternative Payment & CalWORKs (Stages 2 & 3)	106,217
Head Start	123,834
3- and 4-year-olds	91,049
0-2-year-olds (Early)	32,785

In 2016, state pre-K, TK and Head Start, together with the Special Education program, served about 20% of the three-year-olds and 46% of the four-year-olds in the state's general population, as shown in the graph below from the California State Overview, published by the National Institutes for Early Education Research (NIEER).

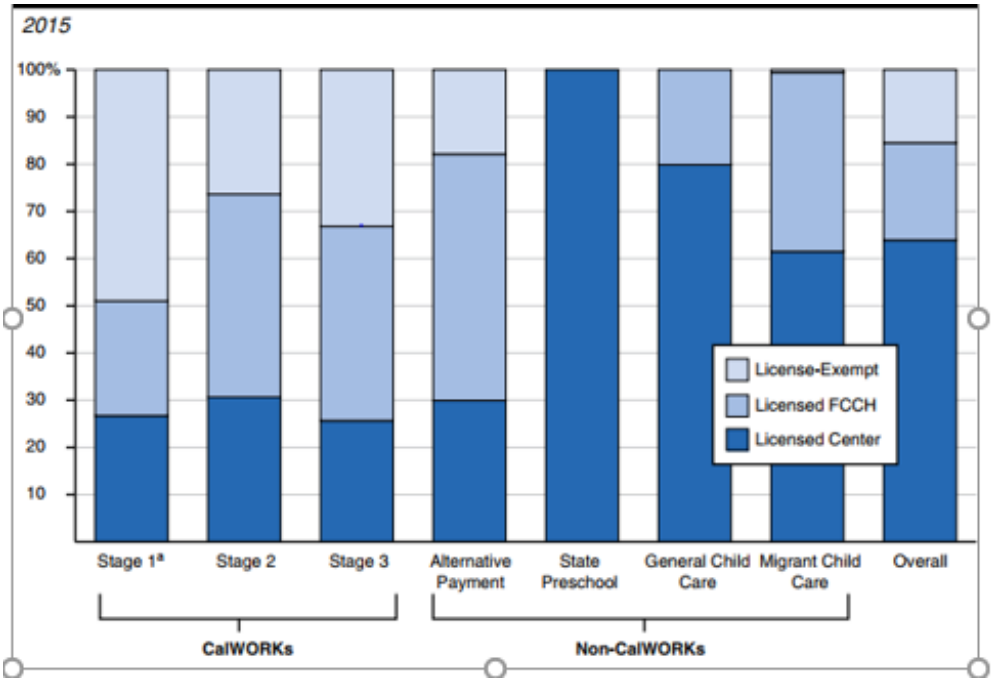
[2] Includes five-year-olds.

Figure 1. State Pre-K and Head Start Enrollment as Percentage of the Total Population[24]



Children participating in the state-supported programs are distributed across settings, as shown in the figure below, based on data from 2014.[25]

Figure 2. Participation in Child Care and Preschool Programs by Setting



Note that nearly half of children in Stage 1 of CalWORKs were in license-exempt programs. Moreover, more than 90% of children in unlicensed care are in CalWORKs.[26] These are particularly vulnerable children, given that to be eligible there must be a child in the home who is deprived of parental support and care as the result of one or both parents being deceased, disabled, unemployed or continuously absent. All of the licensed settings receiving Alternative Payments meet, at most, very basic health and safety requirements under Title 22, and many are license-exempt.

Funding Sources for California's Publicly Funded ECE Programs

The range of programs describe above are supported primarily by state and federal sources, with some local investments.

Statewide Sources

In 2017-18, California allocated about $4.0 billion for subsidized child care and preschool, primarily through two sources:[27]

- **The California Proposition 98 General Fund**, $1.9 billion used to support primarily transitional kindergarten and state preschool;
- **The California General Fund** (Non-Proposition 98), $1.1 billion (including child care for children 6-12 years), primarily used for Alternative Payment Programs (CalWORKs), with some allocated to Alternative Payment Programs (non-CalWORKs), General Child Care and Development, and California state preschool.

Federal Sources

In 2017-2018, the principal federal sources administered through the US Department of Health and Human Services included: [28]

- **Head Start**, $1.083 billion, the largest source of federal funds to the state;[29]
- **The Child Care and Development Fund**, $635 million, providing financing to voucher-based programs under Alternative Payment and CalWORKs ; centers and family child care homes under the General Child Care and Development Fund; migrant programs and quality-improvement and other supports to ECE;
- **The Temporary Assistance to Needy Families (TANF)** program, at $427 million, providing funds to the voucher-financed Alternative Payment and CalWORKs programs.

The federal government also provided smaller amounts of funding through the US Department of Education, specifically:

- **Title I of the Every Student Succeeds Act (ESSA)** allows local educational agencies (LEAs) to use federal funds to establish, expand, or enhance preschool programs for children who are under six years of age.[30] For the 2016-17 school year, 55 California districts (out of 1,024) and four County Offices of Education reserved a total of a little over $15 million in Title I funds to support preschool. Preschools using Title I funds are required to meet Head Start performance standards.

This mixture of federal and state financing for the major ECE services is shown in the chart below, which summarizes the sources and uses of funding from 2015-16 to 2017-18.[31]

Figure 3. Child Care and Preschool Budget

(Dollars in Millions)

	2015-16 Revised	2016-17 Revised[a]	2017-18 Enacted	Change from 2016-17 Amount	Change from 2016-17 Percent
Expenditures					
CalWORKs Child Care					
Stage 1	$334	$418	$361	-$57	-14%
Stage 2[b]	419	445	519	74	17
Stage 3	257	284	306	21	8
Subtotals	($1,010)	($1,147)	($1,185)	($38)	(3%)
Non-CalWORKs Child Care					
General Child Care[c]	$305	$308	$360	$52	17%
Alternative Payment Program	251	283	292	10	3
Migrant Child Care	29	31	35	4	12
Bridge program for foster children	0	0	19	19	—
Care for Children With Severe Disabilities	2	2	2	0[d]	12
Infant and Toddler QRIS Grant (one-time)	24	0	0	0	0
Subtotals	($611)	($623)	($708)	($85)	(14%)
Preschool Programs[e]					
State Preschool—part day[f]	$425	$447	$503	$55	12%
State Preschool—full day	555	627	738	111	18
Transitional Kindergarten[g]	691	739	755	17	2
Preschool QRIS Grant	50	50	50	0	0
Subtotals	($1,721)	($1,863)	($2,046)	($183)	(10%)
Support Programs	$76	$89	$93	$4	4%
Totals	**$3,418**	**$3,722**	**$4,032**	**$310**	**8%**
Funding					
Proposition 98 General Fund	$1,576	$1,713	$1,878	$164	10%
Non-Proposition 98 General Fund	885	984	1,088	104	11
Federal CCDF	573	639	635	-4	-1
Federal TANF	385	385	427	42	11
Federal Title IV-E	0	0	4	4	—

In addition to these local initiatives, Proposition 10, a tobacco tax, was enacted in 1998 to support services benefitting children in the first five years of life. In the past, First 5 has funded preschool slots, but because the funds generated by the tobacco tax have declined, many First 5 County Commissions no longer fund slots. Currently, the ECE funds primarily finance quality rating and improvement activities, including $190 million for a five-year program, beginning in 2015, called the First 5 Improve and Maximize Programs so All Children

Thrive (IMPACT).[32] In 2016, First 5 contributed $179 million to preschool, QRIS, and infant and toddler care.[33]

In addition to the state funds that target early childhood programs, the Local Control State Funding Formula allows LEAs to use education funds for K-12 to expand access and improve the quality of preschool, alone or in combination with other sources of funding. Beginning in 2015-16, through "Expanded TK," LEAs were allowed to admit children who turn five after December 2 to a transitional kindergarten program. Some districts have implemented a stand-alone TK program for the younger children; others integrate them into their regular TK classrooms. Children who are eligible for TK receive full average daily attendance (ADA). Children who are not eligible (because they turn five after December 2) receive full ADA after they turn five.[34] In 2016-17, the Los Angeles Unified School District allocated $44.1 million in LCFF funds to substantially expand its transitional kindergarten program in high-need communities to include 6,132 children younger than 4 years 9 months in stand-alone classrooms.[35]

There have also been local efforts to raise funds for preschool. In 2004, San Francisco launched its universal preschool program after voters approved Proposition H, which created a property tax set-aside for the Public Education Enrichment Fund to improve public education in San Francisco. The measure dedicated one-third of the funds to extending high-quality preschool education to all four-year-olds.[36] The funding was renewed through Proposition C in 2014. In San Mateo County, the Board of Supervisors agreed in 2013 to allocate $15 million in funds from Measure A, a voter-approved half-cent countywide sales tax, to support early learning. The measure was extended in 2016 as Measure K.[37] San Mateo also has an initiative, "The Big Lift," that has raised $30M from public and private sources to support early learning, including increasing the number of center program slots.

Reimbursement Rates

National research provides evidence that the amount of reimbursement predicts a number of quality indicators.[38] Thus, reimbursement rates matter for the quality of care children receive.

Funding in California for individual children does not necessarily correspond to the standards that programs must meet. State preschool and child care programs that contract directly with the state are reimbursed at the Standard Reimbursement Rate (SRR). This rate is established for the state as a whole by the legislature and does not take into account variation by county in the costs associated with providing subsidized care. Voucher-financed services such as Alternative Payment programs are reimbursed at the Regional Market Rate (RMR), which is determined after a state-commissioned survey of private providers every two years. Beginning July 1, 2018, the RMR for licensed providers under Title 22 will be established at the 75th percentile of the 2016 RMR survey. In high-cost counties, the RMR paid for Title 22 programs is higher than the standard rate for programs under Title 5, which are required to meet a much higher standard of quality. License-exempt child care providers increased from 60 to 70% of the FCCH RMR ceiling on January 1, 2017.[39]

As a consequence of the varying reimbursement rates, the quality of care a young child in California receives depends on the program the child is in, not on the needs of the child or the standards of quality imposed on the program. Four-year-olds, for example, can be in programs with very different per-child funding. The base per-pupil grant for a four-year-old in a transitional kindergarten in 2017-18 is $7,941, supplemented by 20% for low-income children and an additional 50% for the percentage of low-income students in the school that exceeds 55%.[40] This does not account for federal and local spending, which typically adds another 40%. If the four-year-old is in state preschool, under Title 5 Standards, the 2017-18 annual reimbursement rate is $4,956 ($28.32/day) for part-time and $11,432 ($45.73/day) for full-day.[41] If the four-year-old is in high-cost Marin County, the daily RMR ceiling in 2017-18 for a voucher-financed program under Title 22 is $82.38/day.[42]

Reimbursement rates have also led some infant and toddler programs to become dependent on preschool-aged children to survive. Although the reimbursement rate is higher for infants and toddlers, it is not sufficiently high to cover the additional costs of caring for them. And although only seven states have higher reimbursement rates for infants, 14 have higher rates for toddlers in licensed centers. Reimbursement rates for in-home child care are higher in 14 states for infant care and in 13 states for toddler care.[43] But costs in California are among the highest in the nation. As a result, some infant and toddler programs need to share costs with programs that enroll preschoolers. If the state expands access to preschool for three- and four-year-olds, many infant and toddler programs could close because they will lose the revenue from the less expensive older children.

The rates at which programs are reimbursed impact the supply of child care. Low reimbursement rates influence the ability of providers to pay teachers fairly, which contributes to the teacher shortage (see Chapter 4). The higher reimbursement rates for vouchers in some counties also create an incentive for programs to seek vouchers rather than contracts, reducing the availability of the Title 5 services that meet higher quality standards.

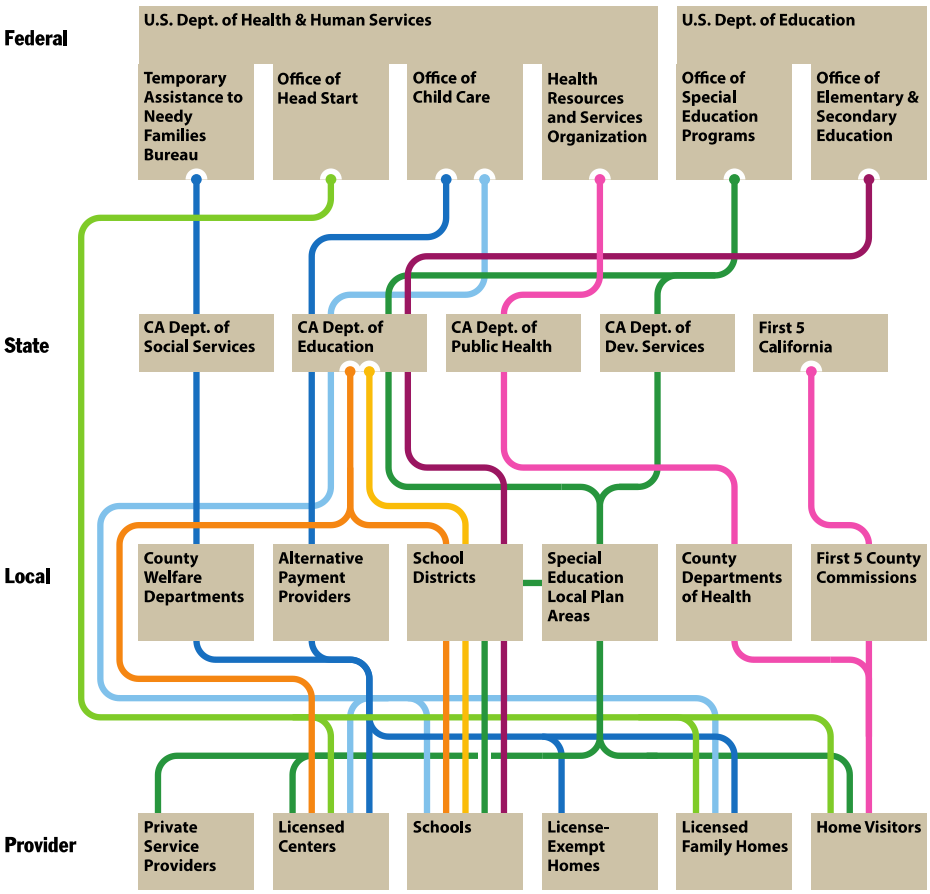
Management of California's Major ECE Programs

County and municipal agencies, as well as state and federal agencies, are involved in the management of early childhood programs. Two cabinet-level agencies at the federal level disperse federal funds. Four agencies at the state level then administer both the federal funds and those provided by the state. Counties and school districts are also involved in administering some programs. The various agencies set licensing and quality standards, provide funding, and monitor compliance with the fiscal requirements that accompany each funding stream. State and local agencies, like the programs themselves, must comply with a complex and burdensome system of sometimes conflicting administrative and reporting requirements. Accountability becomes even more complex when different sources of funding are combined, as is common practice at the program level.

The figure below, excerpted from a Learning Policy Institute's 2017 report, puts the complexity in clear relief.[44] It does not include other funded programs, such as the nutrition

program supporting food for many Head Start programs, Children's Centers, and FCCHs, which are funded by the Department of Agriculture and flow through the Department of Education.

Figure 4. Control of California's ECE Programs



Note: This graphic shows the multiple agencies that administer state- and federally-funded ECE programs in California. Administrative oversight includes setting regulations, allocating resources, managing contracts, and overseeing program quality, among other responsibilities. Administrators may, but do not always, provide funding. ECE programs (the colored lines shown in the key) may be offered by various kinds of local providers, some of whom offer multiple programs at a given time. Several other organizations, particularly First 5, resource and referral agencies, and QRIS consortia, also provide considerable support providers and programs, although their role varies by county.

Source: California Department of Education. (2017). Child Development.http://www.cde.ca.gov/sp/cd/

To illustrate the burden this complex system imposes on local programs, consider the example of a Head Start grantee seeking to provide a longer day to meet the needs of working families and to enroll children with special needs. To be licensed, the grantee would need to

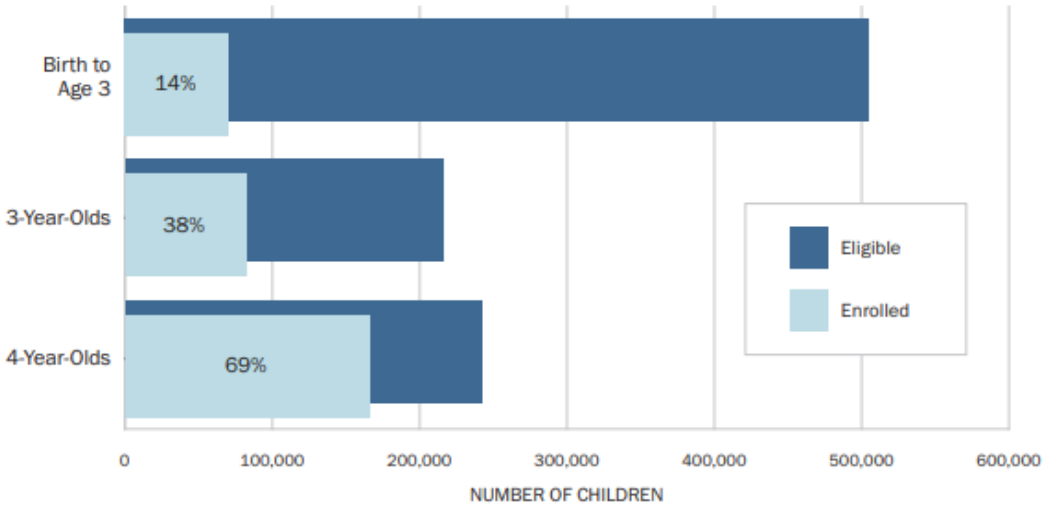
report to the Office of Head Start in the US Department of Health and Human Services on its compliance with Head Start eligibility, enrollment, and fiscal management requirements. To obtain state preschool funds to extend the day for Head Start children, the grantee would need to meet quality standards under Title 5 of the California Code of Regulations and meet different eligibility determination, enrollment, and fiscal management requirements. To obtain Special Education funds, it would have to meet a different layer of federal requirements through the US Department of Education, entailing additional reporting arrangements.

This complexity is replicated at more local levels. Much of the administrative oversight occurs at the county level, through varying organizational structures that typically include, in addition to the County Office of Education and School Districts, a First 5 County Commission, which in most counties administers QRIS, a Resource and Referral Agency, and a Local Child Care and Development Planning Council (LPC). Some counties have made efforts to streamline administration, but in most counties, communication and coordination depend on the establishment of relationships among individuals. The agencies connected to the county, moreover, often have little knowledge of the early childhood education overseen by LEAs.[45]

Unmet Need for Early Care and Education Services

The description above provides an overview of the *publicly* funded ECE services in the state, designed to meet the needs of low- and moderate-income families. An analysis conducted by the Learning Policy Institute (LPI) concluded that in 2015-16, only 33% of children under age five who qualified for a publicly funded ECE program in California, based on family income and working parents, participated, leaving over 650,000 eligible children birth to age five without access.[46] According to the CEO of the Child Care Resource Center in Los Angeles and San Bernardino, the center has nearly 10 people eligible for every non-CalWORKs Alternative Payment slot.[47] The figure below, also from an LPI report, breaks down the gap between eligible and enrolled children by age groups.[48]

Figure 5. Gap between Eligible and Enrolled Children



Not shown in the figure is the substantial variation in California, even within counties. Los Angeles County, for example, has preschool slots for 41% of its preschool-age population, but slots for fewer than 25% in one in five zip codes.[49]

The need for licensed spaces also includes children in families that are not eligible for subsidized programs. In addition to the problem of too few spaces, finding the spaces that are available is challenging. Between 2005 and 2010, the state provided funding for the development and maintenance of a centralized eligibility list in every county. Many counties ceased maintaining the list when the funding was eliminated. Although most programs maintain their own waiting lists, the lack of a centralized list makes it more difficult for families to identify programs with open spaces and for the county or the state to ascertain unmet need. Although Local Child Care and Development Planning Councils are tasked with doing a comprehensive child care needs assessment every five years, many do not do so because of lack of funding.[50] Unmet need, therefore, can only be estimated.

Child Care

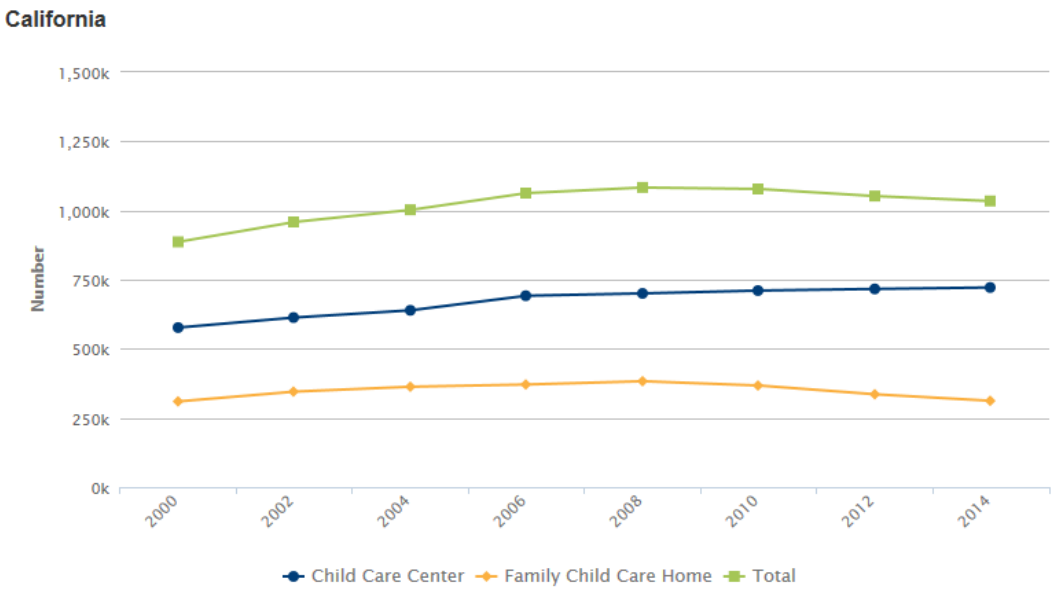
The table below, from the California Child Care Resource and Referral Network, shows the availability of licensed spaces in 2016 by type of care.

Table 4. Availability of Licensed Spaces in 2016[51]

Child Care Center	708,377
Family Child Care Home	283,422
Total	991,799

As seen in the figure below, licensed slots in centers held steady through 2014, and slots in family child care homes decreased somewhat after 2008. Between 2014 and 2016, both licensed center and family day care home slots decreased, by 2% and 9%, respectively.[52] Due to shortages of qualified staff and other issues, many licensed providers cannot fill all of their slots. In these cases, the number of slots is actually greater than the number of children a facility can serve. As a result, the number of slots likely overestimates the quantity of available child care. The reduction in FCCHs is a significant problem in part because they are typically more affordable than center care and are more likely to serve infants and toddlers.

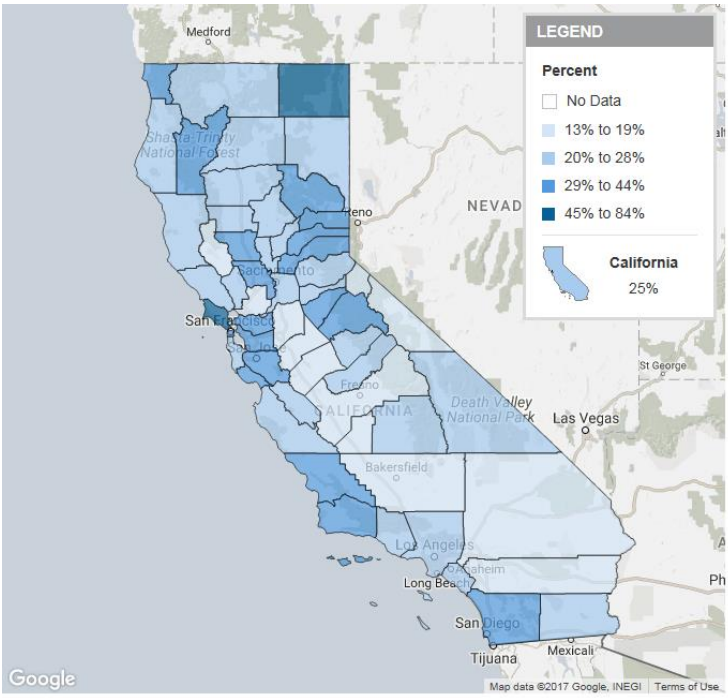
Figure 6. Number of Child Care Slots in Licensed Facilities, by Type of Facility: 2000 to 2014[53]



Licensed care is available for 25% of children 0-12 or 13 in California who have working parents.[54] This indicator is a generous estimate of child care demand. Not all children with working parents need licensed care; some families may prefer to have their children cared for by family members, nannies, friends, or unlicensed care.

The availability of child care varies considerably across the state. The map below shows the variation in the degree to which licensed child care is available to meet the estimated demand.

Figure 7. Availability of Licensed Child Care for Working Parents: 2014[55]



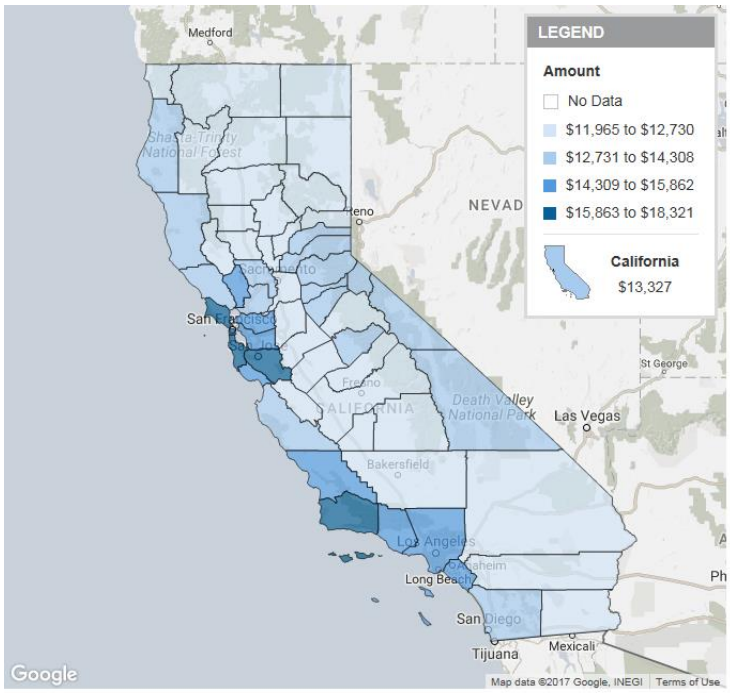
There is a significant unmet need even in counties that have a relatively high number of slots for child care. Although San Mateo County estimates that 68% of the demand for child care for children 0-4 is currently met, it has a shortage of 3,000 infant spaces and almost 7,800 preschool spaces.[56]

A significant issue for working families is the hours that licensed child care is available. Most Family Child Care Homes are full-time, although even this arrangement does not meet the needs of parents who do not work regular hours. In a national study, only 27% of mothers who worked outside the home had regular hours.[57] Although 39% of FCCHs offer evening, weekend, or overnight care in California, only 2% of child care centers do.[58]

The effect of costs on access. Even if a sufficient number of slots for child care existed in the state, the cost would put the slots out of reach for many families. Families that are not eligible for subsidized care because their incomes are above the current eligibility level typically pay out of pocket, and costs in licensed early care and education services are higher than low-income and many moderate-income families can afford.

In 2014, the average cost of full-time early care for three- and four-year-olds in the state was $7,850 a year in licensed FCCHs and $9,106 for center care. For infants 0-2 years, the average annual cost was $8,462 for family child care and $13,327 for center care.[59] The cost for center-based care for infants varied greatly throughout the state, from $1,000 per month on average in some rural counties to $1500 per month in the San Francisco Bay Area. The average cost of such a program increased by 7% from 2009 to 2014, after adjusting for inflation.[60] The map below illustrates how costs vary by county.

Figure 8. Annual Cost of Infant Center Care[61]



The costs in California for low- and moderate-income families far exceed the national guidelines for the proportion of household income that should be spent on child care, especially for infant care. The US Department of Health and Human Services' guideline recommends that families pay no more than 7% of their income for child care.[62] In 2014, the median income of families with children in California was $64,000. Thus, in 2014, California families with the median income needed to spend 20% of their income for infant care, and for six counties (Siskiyou, Humbolt, Mendocino, Lake Merced, Madera, and Tulare) over 30% of their income needed to go to infant care.[63] According to a Child Care Aware report, in 2016 California was one of the 10 least affordable states for infant care, costing on average 51% of the median income of a single parent and 15% of the median income of two parents. The cost is a likely reason that in 2008, fewer than 4% of infants and toddlers in the state were in licensed centers and only another about 8% were in licensed family child care homes.[64] Even FCCHs for preschoolers, typically the least costly form of child care, required a substantial proportion of family income—31% of the median income of a single parent and 10% for a couple, on average.[65]

In areas where the cost of housing is high, such as the San Francisco Bay area, the cost of facilities also constrains access to licensed care. A 2016 survey in San Mateo County identified "difficulty finding an available site" and "lack of funding" as the top two barriers child care and preschool providers faced when exploring program development or expansion. [66] The same survey also highlighted that owners of at least four San Mateo County child care sites were facing closure or displacement at the time, due to the increasing cost of rent. It is possible to obtain loans from the state through the Child Care Facilities Revolving Loan Fund, but the funding is limited to existing or prospective contracting agencies that provide CDE-

subsidized child care program services, and many child care providers have insufficient incomes to be able to pay back loans.[67] The amount the state allocates to this fund has been substantially reduced, due in part to a lack of take-up. The low usage may be the result of restrictions; the funds may be used only in small amounts to fund portable classrooms and specific kinds of renovations. Another problem may be the minimal technical assistance provided.[68]

Preschool for Three- and Four-Year-Olds

An American Institutes for Research (AIR) report, *Unmet Need for Preschool Services in California*, concluded that as of 2014, about 466,295 of California's three- and four-year-olds were eligible for state preschool and other Title 5 programs.[69] The authors of the report estimate that a total of 169,796 children aged three and four were unserved by the programs for which they were eligible,[3] representing at least 42% of all three- and four-year-olds in the state. They assume a 90% participation rate based on the fact that in New Jersey, 90% of families similar to those eligible for California's State Preschool Program have chosen to enroll their children in preschools operated in school districts in high-poverty areas (Abbott district preschool programs).

Access to school-readiness-focused ECE (meeting Title 5 or Head Start standards) is substantially affected by where children live. As can be seen in the table below, excerpted from the AIR report, access by county varies widely. Densely populated urban areas—Los Angeles and San Bernardino, for example—have the largest number of children unserved by school-readiness-focused programs. Rural counties typically have the highest percentages of unserved children.

3 Includes California State Preschool Program, Center-Based Migrant Child Care, Severely Handicapped Care, Center-Based Child Care, Family Child Care Homes, Head Start, TK, and ETK in LAUSD.

Table 5. Top 5 Counties with the Highest Estimated Number of Children Income-Eligible but Not Enrolled in Programs Meeting Title 5 Standards by County, 2014

	3-Year-Olds		4-Year-Olds		3- and 4-Year-Olds	
	#	%	#	%	#	%
Counties with Highest *Numbers* Unserved						
Los Angeles	42,135	67%	15,442	26%	57,577	47
San Bernardino	13,796	82%	2,706	20%	16,502	55
Riverside	10,326	77%	4,980	35%	15,306	56
Orange	10,939	79%	3,932	32%	14,871	57
San Diego	6,000	48%	5,568	29%	11,568	37
Counties with Highest *Percentages* Unserved						
Mariposa	52	96%	26	81%	78	91
San Benito	584	84%	485	66%	1,069	75
Placer	1,188	85%	508	47%	1,696	68
Lassen	180	71%	202	66%	382	68
Solano	1,592	82%	743	41%	2,335	62

California has a relatively low state preschool participation rate. Nationally, during the 2015-2016 academic year almost 32% of four-year-olds and nearly 5% of three-year-olds were enrolled in state-funded pre-K.[70] Florida, Oklahoma, and Wisconsin served more than 70% of four-year-olds in the state. The top 10 states that enrolled at least 50% of children this age are Florida, Oklahoma, Wisconsin, Vermont, West Virginia, Iowa, Georgia, New York, and Texas, in addition to the District of Columbia. Enrollment rates in other state preschool programs vary widely. In Washington, DC, 81% of four-year-olds and 70% of three-year-olds were enrolled.

In addition to states, municipalities across the country have striven to expand access to pre-kindergarten. As in a few California communities mentioned above, Boston, Denver, Seattle, and New York City have a goal of serving all four-year-olds, regardless of income.[71] In some cities, such as Denver, families bear some of the costs on a sliding scale.[72]

Summary and Implications for State Policy

The data and analysis in this chapter suggest a number of strategies that could be used in California to improve children's access to high-quality care.

Funding

Funding for early childhood education is clearly inadequate and falls far short of meeting the need, especially of the state's most vulnerable children, who are in the most need

of high-quality programs. The funding structure is also inequitable. CalWORKs families and some former CalWORKs families are guaranteed services, while other equally low-income working families that have not accessed CalWORKs are often put on wait lists and some never receive care.[73]

The instability of funding is also a significant problem. California's ECE system lost nearly $1 billion in public funding from 2009 to 2011 during the recession. It is beginning to recover, but the recovery is slow because so many providers closed down. The cost of facilities makes rebuilding a slow process. More flexible support for facilities will help, especially in areas where the cost of property and construction is high. But early childhood education requires an infrastructure that cannot be rebuilt quickly when additional funds become available. In consequence, it can take years to recover from funding reductions.

The difficulty of finding staff for poorly paid jobs contributes to the unmet need (see Chapter 4). The level of the subsidies will need to be increased to make early childhood education a desirable profession. Fluctuations in staffing and enrollment also make it difficult for programs to plan. A successful experiment to address this problem gave waivers to Bay Area counties—Alameda, San Francisco, San Mateo, and Santa Clara—to retain funds from under-earned contracts and to use that funding flexibly. The waivers allowed them to raise the reimbursement rates for providers and to increase the income eligibility thresholds for participating families. Giving counties and programs more flexibility to meet their needs would improve program planning and efficiency.

A more standardized reimbursement system would avoid some of the irrational incentives. For example, the General Child Care and Development program, which is held to the higher Title 5 standards, could be converted to a voucher program under the lower Title 22 standards because the reimbursement rate for vouchers is so much higher in some counties.

Program Schedules

A large proportion of early education programs in California are part-day. Even a six-hour program does not meet the needs of working families. And for the high proportion of parents who work non-regular hours, especially those with low incomes, even a full-day program that assumes a regular work day does not meet their needs. The legislature has committed to expanding full-day slots for state preschool, but two-thirds of these slots are operated by school districts that are typically open only 180 days a year, in part because the overhead for maintaining the school facility year-round is prohibitive. The norm of patching together "coverage" from various programs and sources creates costs and inefficiencies for the state and for families.

Data Needs

Because children participating in ECE programs are not assigned unique identifiers, and because families often need to patch together different programs to meet their needs, it is impossible to determine the number of children served. Giving young children identifiers would make it possible to collect data that could improve policy decisions that affect children and their families.

Data collection is also inefficient. Currently each county is responsible for developing its own data system. San Francisco has been working on its system for a decade, and although it has faced many challenges, the system provides access to a large amount of local data that can be analyzed to improve services. San Mateo is attempting to build its own integrated system that centralizes local ECE data, but is facing software and vendor challenges. Other counties, lacking the needed technological expertise, have to pay for off-the-shelf systems such as Pinwheel, which is expensive. The field of early childhood education would be well served, and savings would most likely be achieved, if the state created a system that could be adopted by counties. Such an initiative could build on the work and experience in San Francisco. Current efforts being made to improve data gathering (see Chapter 7) should be supported.

Governance

Finally, the governance structure of early childhood programs in California involves a dizzying array of funding sources and regulations, with many state agencies overseeing their administration, including the Departments of Social Services, Developmental Services, and Education, as well as First 5. The fragmentation in accountability systems and regulations creates inefficiencies and management challenges at the program level, generates confusion among parents, and does not support a coherent approach to meeting the needs of California's children and families. It also makes coordination between preschool and the early elementary grades difficult. Other states that have made efforts to address coordination problems could be used as models for similar efforts in California. Many states now include public pre-K oversight in the same governance structure that oversees K-12 systems. Several states have also consolidated the governance functions. Connecticut has an Office of Early Childhood, and Oregon established an early learning division in its State Department of Education. Colorado also consolidated and aligned early childhood programs within its State Department of Human Services and created the Office of Early Childhood. Washington created the Department of Children, Youth, and Families and is consolidating several services previously overseen by the State Department of Social and Health Services and the Department of Early Learning.[74]

Even short of consolidated governance that places authority and accountability for the entire early childhood system in one executive branch agency, it is possible to achieve better coordination. One strategy is to create a designated unit within the governor's office responsible for leading collaboration. In Illinois, the governor created a Governor's Office of Early Childhood Development to support efforts to improve and expand programs and services. Ohio's Early Education and Development Office resides within the Governor's Office of 21st Century Education to coordinate the early childhood work of interagency teams and the state's Early Childhood Advisory Council.[75]

There is no simple solution for California, but better coordination is clearly needed. Whatever changes are made, choice and flexibility will be important. Family's needs vary hugely, depending on, for example, whether there are one or two caregivers in the home, the availability of other social supports (e.g., grandparents), number and ages of children, work schedules, and location (e.g., urban versus rural). To address the diverse needs of families, efforts to streamline governance cannot result in a one-size fits all approach.

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CHAPTER 2: EARLY LEARNING FOR CHILDREN WITH DISABILITIES

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Early learning opportunities for young children with disabilities have long been provided in California. Programs for infants and toddlers who are deaf and for those with visual impairment have been available since the 1940s. Options for all young children with disabilities did not become available, however, until after 1986, when they were incorporated into an amendment to the federal law now known as IDEA. In this chapter, we will first review the basics of special education law, and then turn to its application to infants, toddlers, and preschool-age children. We will follow with a look at the organization and implementation of the law in a disjointed, complex field known as early childhood special education (ECSE), which in California straddles two major state agencies.

Many of the concerns in ECSE center on access to services, which nationally leave some of the most vulnerable populations out of early intervention opportunities. Tied to this issue is that of disproportional representation, a topic under great debate in special education research and policy. Are children equitably represented in ECSE, as would be expected from their presence in the population? Why are boys of color overrepresented in preschool suspensions and expulsions? Is disproportionality related to bias or to poverty? These issues will be raised, but not settled, in this chapter.

We will also discuss screening and assessment, preparation of teachers, opportunities for inclusion (children with and without disabilities attending programs together), and special education funding, and consider policy options that largely coincide with other major efforts to evaluate California policies related to young children with disabilities, particularly the state's Special Education Task Force in 2015 and the January 2018 Legislative Analyst's report on early intervention programs.

Federal Mandates

American children with disabilities must be provided a free, appropriate public education from the time of their birth or of the identification of their disability up to the age of 22, if their need for services persists. These services are mandated by the federal law now known as the Individuals with Disabilities Education Act (IDEA), which was passed in 1975 and has been reauthorized by Congress five times. Nearly 12% of California's school-age children are enrolled in special education.[1] In 2015-2016, that came to 734,422 individuals, newborn through 21 years of age.[2]

To qualify for federal funding under Part B of IDEA (covering children 3-21), each state must provide a free and appropriate public education for every eligible child and procedural safeguards pertaining to the identification, evaluation, and placement of students in special education services that are intended to protect the rights of parents and children with disabilities.[3]

To qualify for federal funds under Part C of the law (which covers early intervention for infants and toddlers), states must also provide an accessible early intervention system (a statewide system to provide and coordinate early intervention services for infants and toddlers with disabilities and their families) that includes a comprehensive Child Find and referral system and a public awareness program focusing on the early identification of infants and toddlers with disabilities.[4]

The requirement to include children of preschool age (3-5 years old) began with the 1986 reauthorization of IDEA, and preschool special education is now a mandated program in all the states. In 1986, Congress, swayed by the large body of research documenting the improved developmental outcomes when intervention begins very early in life, also offered discretionary grants to the states to provide early intervention through a comprehensive set of services to infants and toddlers between birth and age three and their families. All states and eligible territories now offer early intervention services for eligible children, but doing so remains a state choice rather than a mandate. Part C (ages 0-3) is not a permanent authorization within IDEA. The purpose of adding the birth to three option was to

> enhance the development of infants and toddlers with disabilities, minimize potential developmental delay, and reduce educational costs to our society by minimizing the need for special education services as children with disabilities reach school age.[5]

IDEA also requires that states implement a Child Find program designed to identify children eligible for early intervention and school-based special education services and ensure that they are evaluated.

In general, California has not performed well in providing early intervention, and has often fallen behind in meeting the mandates of Part B of IDEA as well. In 2013, the California Statewide Special Education Task Force was formed to determine why special education was not more successful in California.[6] The Task Force reached two major conclusions. First, the fact that special education and general education are separate systems within the larger education system has worked to deprive both children with disabilities and their peers of the potential benefits of a more unified, collaborative approach. Second, the scarcity of early intervening supports that would give children who were struggling academically and socially an opportunity for extra help is causing more children to fail, and increasing the number identified as having learning disabilities in elementary school. While these observations are not directly linked to early childhood special education or early learning, they are related to the emphasis on starting early and preventing the worsening of learning and behavioral problems over time that is the foundation of early childhood special education. The task force recognized the importance of early intervention and recommended its expansion.

Organization and Implementation of IDEA for Children Birth to Five

Part C of IDEA governs early intervention for infants and toddlers between birth and three years of age and their families; Part B contains the chapters on children from age three years through 21. Since the characteristics and needs of infants and toddlers are often quite different from those of preschool-age children, the eligibility requirements for Part C and Part B

programs differ. The field of early childhood special education divides its policies and professional preparation between infants and toddlers from birth to three years and young children ages three to five years. Students working toward California's Specialist credential in Early Childhood Special Education, for example, must complete two student teaching placements: one with infants and toddlers in early intervention and one in preschool. While both components recognize the importance of family involvement in the child's optimal development and require parental consent for any change in the child's program, early intervention for infants and toddlers is more focused on developing partnerships with families on behalf of children.

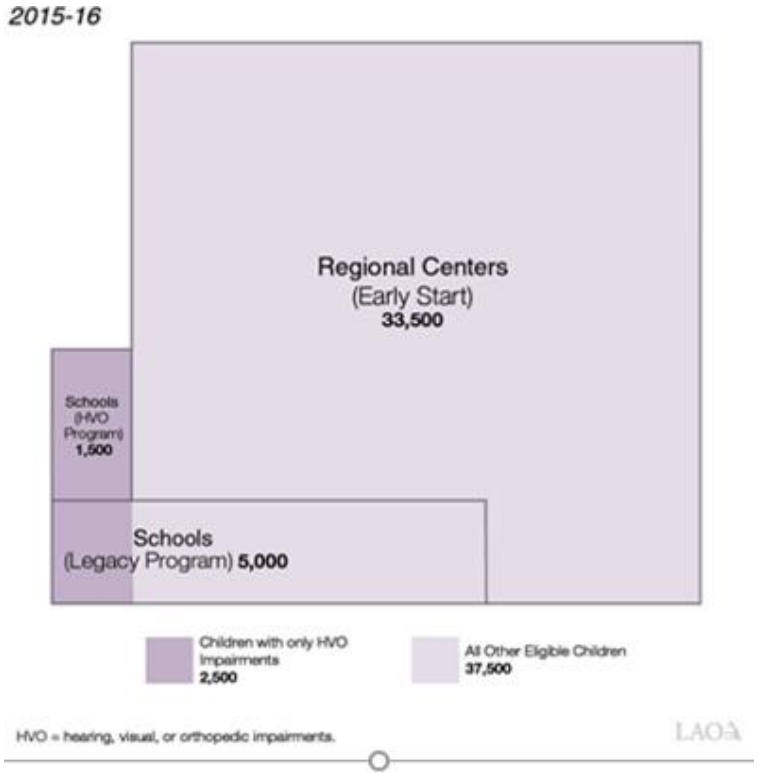
Built into both Part B and Part C is a series of procedural safeguards meant to ensure that parental rights are provided according to IDEA mandates, and that children receive services in a timely manner. For example, once a child has been referred to a regional center or school district for early intervention, an assessment must be completed, and if the child is eligible, an Individualized Family Service Plan must be written within 45 days.

Part C: Infants and Toddlers

In California, the birth to three early intervention programs are called Early Start. Early Start was created in 1993 through the California Early Intervention Services Act in response to the mandates of Part C.[7] The program is administered by the Department of Developmental Services (DDS) through the state's 21 regional centers, in partnership with the Department of Education. About 41,000 infants and toddlers received early intervention services in 2015-16.[8] Eighty-two percent of these children were served by programs "vendored" (contracted) by the regional centers. Infants and toddlers with low-incidence disabilities (visual impairment, hearing loss, severe orthopedic impairment, deaf-blind, multiple disabilities) are served in public school-based early intervention programs. In addition, there are 97 schools with a long history of providing early intervention services (referred to by the LAO as "legacy" programs) that provide services for 5,000 children each year.

The figure below, from a recent Legislative Analyst's Office (LAO) Report on California's system for serving infants and toddlers with special needs, shows the three components that make up the Early Start program in California and the number of infants and toddlers served in 2015-2016.[9]

Figure 1. Regional Centers Serve Most Infants and Toddlers with Special Needs



Early Start is also responsible for Child Find, evaluation and assessment, and coordination of services for the youngest children and their families.

The federal government reviews states' compliance with the components of IDEA yearly and designates each state as "meets requirements," "needs assistance," "needs intervention," or "needs substantial intervention." Since 2015, the ratings of the mandates of Part C of IDEA have been based on both child outcomes and compliance with the law. In 2017, California was rated "needs intervention in implementing the requirements of IDEA."[10] Weaknesses were identified in both procedures (e.g., meeting timelines) and child outcomes. Compliance with the mandates of Part C has been a challenge for California since the late 1980s, when implementation was first evaluated. The table below from the LAO report illustrates California's 2013-14 record in meeting the deadlines to develop the initial Individualized Family Service Plan and to begin services. The state was ranked 46th in meeting the first deadline and 47th in meeting the second. A total of 29 states and territories met all Part C requirements in 2015; three needed assistance; and 24 were in the same category as California, needing assistance for two or more years.[11]

Table 1. Percentage of Children for Which State Completed Activities on Time, 2013-14[12]

	Develop Initial Service Plan	Begin Services
25th ranked state	97.9%	98.3%
40th ranked state	95.1	94.6
California[b]	82.1	82.1

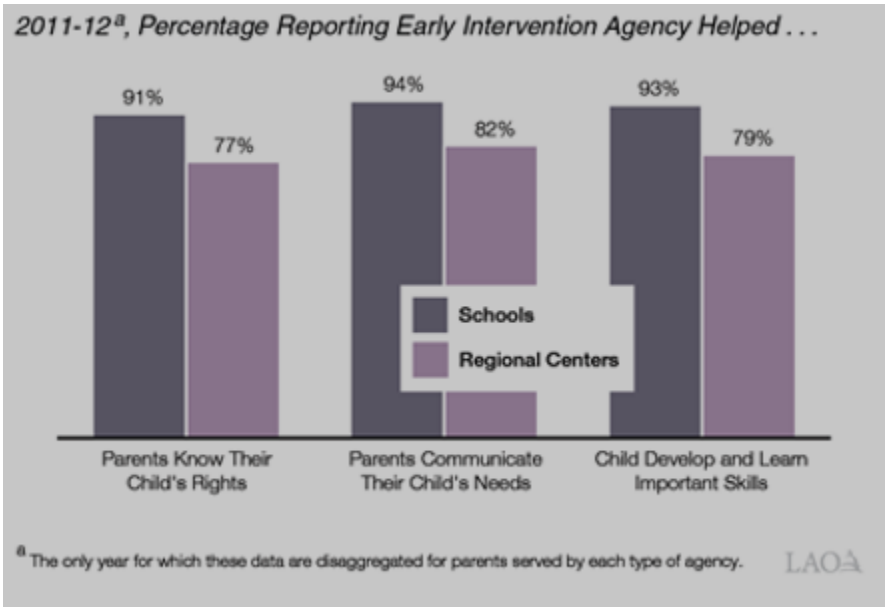
California has also had difficulty meeting the timelines for the Transition Individualized Education Plan (IEP), the document describing the child's preschool program. IDEA requires that the Transition IEP meeting take place at least 90 days before the child's third birthday, when Part B services (preschool, administered by the school districts) begin. The transition process is required to ensure that families connect with their local school district as they leave their Early Start program so that the children who continue to qualify for services move smoothly from one program to the next.

In the federal fiscal year 2013, the Office of Special Education Programs (OSEP) in the federal Department of Education added the State System Improvement Plan as a new indicator of each state's Annual Performance Report on special education and early intervention services. OSEP began to require states to identify improved outcomes in addition to complying with the mandates of the law, such as timelines.

In response, in 2015 California identified a task force to develop a Systemic Improvement Plan for Part C implementation.[13] The task force identified three areas to be improved: 1) coordination between the two lead agencies (DDS and DOE), 2) data entry, retrieval, and compilation processes; and 3) the difficult process of implementing programs and making improvements in the context of the fiscal instability of California's budget over the last 10 years.

Despite these bumps in the road, the LAO report argues that parents largely approve of services from both regional centers and schools, based on the figure below from a 2011-12 survey.[14]

Figure 2. Parent Satisfaction with Schools and Regional Centers



Larger numbers of parents expressed satisfaction with school-based programs, however, suggesting that a wider array of school programs would be perceived favorably by families.

Part B: School-age Programs Including Preschool

Preschool programs, part of the preschool through age 21 continuum in Part B of IDEA, are administered in California through the Department of Education (DOE) and Local Education Agencies (LEAs). Smaller LEAs often organize Special Education Local Plan Areas (SELPAs)—relationships among LEAs that allow for provision of the full spectrum of services. For example, three or four small districts might contract with a larger LEA for the education of students with visual impairments, a "low-incidence" disability, so that small LEAs do not have to provide duplicate services for very small numbers of students.

Conclusions

Strict timelines, poor compliance. There is no doubt that the timelines built into the IDEA requirements are stringent and demanding for agencies and schools, yet California has consistently failed to meet Part C procedural guidelines since the late 1980s and was ranked 46th among the states in meeting the initial service plan deadline and 47th in meeting the deadline to begin services in 2013-2014.The state should determine why timelines are not met and ensure that large caseloads are not preventing Early Start providers from completing their work in a timely manner. Delayed timelines for the Transition IEP may prevent families from making informed choices about their preferred preschool setting for their child, interfering with their rights under IDEA.

Cumbersome organization of services for infants and toddlers. Joint administration of Part C services by DDS and DOE may slow down access to services and transition to preschool (Part B) services. The agencies often have conflicting requirements and protocols. California should consider making the Department of Education the lead agency for Part C services in order to create a seamless system of services for children and families, administering services from birth to age 22.

Disabilities and Demographics

The table below details the 2016-2017 data for children ages 0-5 years enrolled in public school special education services in California by age and disability. These data do not include children identified with developmental delays through the regional centers, or those who received private services that were not funded by the state, federal government or county.[15]

In the birth to three age range, children with low-incidence disabilities (hard-of-hearing, deaf, deaf-blind, visual impairment, and orthopedic impairment) are exclusively served by public school programs, but children with other disability labels may also be served by regional centers (see figure on page 5).Children served by regional centers are not included in this table. Thus, the low-incidence numbers are accurate, but the numbers for other disabilities in the birth to three age range are incomplete. By age five, children are largely served by public schools.

Table 2. Special Education Enrollment in Public School Programs for Children Ages 0-5 Years by Age and Disability, 2016-2017

	Age in Years					
	0	**1**	**2**	**3**	**4**	**5**
Intellectual disability (MR)	61	124	156	828	1,134	1,486
Hard of Hearing	407	634	572	339	368	428
Deaf	54	114	102	130	150	147
Speech /Language Impairment	17	196	861	12,297	17,823	19,947
Visual Impairment	31	80	109	75	97	105
Emotional Disturbance	0	0	*	*	*	69
Orthopedic Impairment)	85	158	207	348	453	522
Other Health Impairment	307	720	932	856	1,099	1,513
Specific Learning Disability	0	0	*	26	92	536
Deaf Blindness	*	*	*	*	*	*
Multiple Disability	39	93	137	271	276	282
Autism	*	*	95	4,931	6,689	7,483
Traumatic Brain Injury	0	*	*	20	26	35
Total	1,001	2,119	3,171	20,121	28,207	32,553

In the birth to three age range, the most common diagnosis in California is likely developmental delay, since so many infants and toddlers are served through regional center programs. Regional centers do not serve infants and toddlers with low-incidence disabilities. In education programs, hearing loss (hard of hearing and deaf) is being identified especially early; this speaks to the effectiveness of the California Newborn Hearing Screening (NHS) process, which was fully implemented in 2008.[16] In one California study conducted in the early days of implementation, when not all children were screened, the NHS made it possible to diagnose hearing loss, provide hearing aids, and begin intervention between two years and 19 months earlier than for children who were not screened.[17] Before the standardization of the NHS, children were typically diagnosed between ages two and three, and by the time early intervention could occur, they were significantly delayed in language acquisition. The successful implementation of the NHS has been a major accomplishment for California.

Hearing loss is followed in numbers by speech/language impairment, which becomes by far the largest diagnosis in the three to five age range. Also noteworthy is the relatively late diagnosis of autism spectrum disorders (ASD) in children between birth and age three in public school. Regional centers also rarely identify autism before age three, although exact numbers of infants and toddlers with autism served by the regional centers does not appear to be

available. Only 95 children were receiving services for ASD in public school programs before age three, while over 200 times that many children were in programs between ages three and five. There is consensus among researchers that the earlier identification and treatment occur among children with autism, the better the long-term outcomes.[18] The American Academy of Pediatrics' literature review concluded that "There is now robust evidence across a diversity of study designs that behavioral signs of ASD can be detected in the second year of life."[19] Identification of ASD after age three is considered "late," and has long-term negative effects on communication and social-emotional development for California's children.

Conclusions

The majority of children receiving early intervention in California through the regional centers are likely identified as having a developmental delay, a broad descriptor generally indicating performance below age norms in cognitive, communication, physical (including vision and hearing), social-emotional, or adaptive (self-help and independence) development.

Autism, a condition that has been rapidly increasing across the US, cannot be identified through a similar physical assessment, but it can be identified in the second year of life so that crucial early intervention can begin. California must focus on the earliest possible identification of autism and the provision of services to young children identified with autism or at risk for autism as early in life as possible. These services can be expensive, but early intervention is likely to lessen the services needed by individuals with autism as they grow older.

Access to Services

Early Intervention

The percentage of the infant/toddler population served by California Early Start decreased by 7.4% between 2008 and 2014, from 2.6% to 2.4%, compared to a 5.4% increase in the percentage of infants and toddlers served nationally.[20] The decline in the number of infants and toddlers served in California can likely be explained by the changes in eligibility criteria that were made after the 2008 budget crisis in the state and the concurrent decreases in funding for the Department of Developmental Services (DDS), the lead agency for Early Start. Many infants and toddlers who would previously have received services under the "high risk" category were placed on "monitoring" status by the regional centers, and did not receive direct services. In 2014, DDS restored services to children in the "high risk" category.[21] The table below documents a consistent increase in the number of children served since 2014, although California remains below the US average in the percentage of children receiving early intervention.[22]

Table 3. Percentage of the Population Birth through Age Two Receiving Early Start/Early Intervention Services in California and in the United States

Year	California	US and outlying territories
2014-15	2.45	2.95
2015-16	2.68	3.00
2016-17	2.94	3.20

In 2015-16, 17,871 California children exited Part C early intervention services, and 329 were eligible for Part B preschool special education services (eligibility had not yet been determined for 6,767 children at the time the data were submitted).[23] In the next school year, 20,121 three-year-olds received preschool special education services (see data in the table on page 6). Even if every child whose eligibility for Part B preschool had not yet been determined became eligible for Part B preschool, 13,354 children (two-thirds of all three-year-olds in preschool special education) who had not received early intervention started preschool special education in 2016-2017. The great majority of children in California who were eligible for special education services at age three had not received early intervention services. It appears that in California, a large number of children who later qualify for special education are not served by early intervention. This coincides with what policymakers suggest is a national problem; some studies have documented that up to 13% of American infants and toddlers could qualify for early intervention under the eligibility criteria used by the states, rather than the 3.20% served in 2016-17.[24] One national study found no differences between black and white children in receipt of services at nine months, but at 24 months, black children were five times less likely to receive services than white children.[25] Children with medical conditions or "established risk" characteristics such as Down syndrome are more likely to receive early services than those in the "judgment" categories of developmental delay or autism.

The failure to identify and provide services to infants and toddlers flies in the face of what is known about early intervention and particularly of what is known about the effects of early experience on the brain development that lays the foundation for future learning and development. The Center on the Developing Child at Harvard explains:

- Neural circuits, which create the foundation for learning, behavior and health, are most flexible or "plastic" during the first three years of life. Over time, they become increasingly difficult to change.

- Persistent "toxic" stress, such as extreme poverty, abuse or neglect or severe maternal depression, can damage the developing brain, leading to lifelong problems in learning, behavior, and physical and mental health.

- The brain is strengthened by positive early experiences, especially stable relationships with caring and responsive adults, safe and supportive environments, and appropriate nutrition.
- Early social/ emotional development and physical health provide the foundation upon which cognitive and language skills develop.
- High-quality early intervention services can change a child's developmental trajectory and improve outcomes for children, families, and communities.
- Intervention is likely to be more effective and less costly when it is provided earlier in life rather than later.[26]

Preschool Services

In fall 2015, 5.2% of children ages three to five years in California received special education services, while at the national level, 6.2% of children in this age range received such services. California also serves a smaller percentage of children ages 6-22 in special education (7.9% of the school-age population) than the national average (8.8%).[27]

Conclusions

California serves a lower percentage of children with disabilities than the national average in every category of special education service: early intervention, preschool, and school services for children ages 6-21. It is difficult to explain these discrepancies across the age range. But it is clear that many of the children who later receive preschool special education services do not receive early intervention, and this is a significant cause for concern, given the documented positive effects of early intervention on long-term achievement.

Ethnicity

According to the California Department of Education report from 2015-16, the largest number of children ages 0-5 years receiving special education services in California were Hispanic (48,890), followed by White (20,274), Asian (7,694), multiethnic (5,393) and African-American (4,409).[28]

The tables below from the latest *Annual Report to Congress on the Implementation of IDEA* provide data on the percentage of the population in seven racial/ethnic groups that received early intervention and preschool special education in the United States and in California.[29]

Table 4. Percentage of the Population Birth Through Age 2 Served under IDEA, Part C, for Each Racial/Ethnic Group, Cumulatively During the 12-month Reporting Period, by State: 2014–15

	American Indian or Alaska Native	Asian	Black or African American	Hispanic/ Latino	Native Hawaiian or Other Pacific Islander	White	Two or more races
All states	5.5	4.6	5.3	5.7	7.1	6.1	4.2
California	2.9	3.8	4.9	4.5	2.2	3.9	1.3

Table 5. Percentage of the Population Ages 3 Through 5 Served under IDEA, Part B, for Each Racial/Ethnic Group: Fall 2015[30]

	American Indian or Alaska Native	Asian	Black or African American	Hispanic/ Latino	Native Hawaiian or Other Pacific Islander	White	Two or more
All states	8.4	4.7	6.2	5.7	7.6	6.7	5.3
California	5.6	4.3	5.5	5.5	3.7	5.0	5.7

These tables demonstrate that with the exception of preschoolers of two or more races/ethnicities, every racial/ethnic group in both the birth–three and the preschool age ranges is less well-represented in California early intervention and preschool special education than in the US population. It would be helpful to separate the Native American population, of which California's is the highest in the country, from the Alaska Native population to determine whether Native American infants, toddlers, and preschoolers are being served adequately in California.[31]

While there is no standard for what is considered underrepresentation, it appears from these figures that outreach for inclusion in both early intervention and preschool special education programs is not as effective in California as in the country as a whole.[32]

Disproportionate Representation in Special Education

National data and issues. The question of whether children from traditional minority groups are represented in special education as would be expected from their presence in the child population has been a troubling concern since at least 1968,[33] and was addressed by two reports from the National Research Council.[34] Despite differences in reporting across states and recent challenges to the reasons for the inequities,[35] the consensus has been that in the 6-22 age range, African-American children, especially boys, have been overrepresented in the special

education categories of intellectual disability and emotional disturbance. Asian children are typically underrepresented across categories of disability, and the data shows that Latinos are largely represented as would be expected by their presence in the population.[36] But the extent of the disparities differs greatly across states, ages, and disability categories, and the explanations for them differ.

Disproportionality in early intervention and early childhood special education. The data suggest that issues around disproportionality may be quite different for younger children. Morgan, Farkas, Hillemeier, and Maczuga[37] examined disproportionality in early intervention and preschool special education in the ECLS-B national cohort, in which 7,950 children were receiving early intervention and early childhood special education preschool services. They controlled for many of the factors that would have increased the likelihood of special education placement, such as socioeconomic status, access to health care, gestational and birth history, and learner characteristics. They concluded that by four years of age, African-American and Asian children were disproportionately *underrepresented* in ECSE programs, as were children from non-English speaking homes. The data consistently showed that minority children were under-identified for communication problems. The children most likely to be represented in early intervention and preschool special education programs were males, those born at very low birth weights, and those having congenital anomalies or externalizing behavior problems.

Factors such as poverty, prematurity and low birth weight, access to health insurance, and regular pediatric visits may explain the representation of children from minority groups in special education better than their race or ethnicity. If this is the case (and more data would be helpful), addressing the causes may be a productive strategy for reducing disparities. Moreover, improving prenatal care, nutrition, and access to health care and ensuring that all children are screened for services may, in the long run, be less costly than meeting later needs for special education.

Disproportionality in Discipline Practices

The recent Policy Statement on Suspensions and Expulsions in Early Childhood Settings,[38] jointly issued by the federal Departments of Health and Human Services and Education, follows a 2014 Office of Civil Rights report that found large numbers of children being suspended and expelled from preschool.[39] African-American boys are most frequently expelled, but African American girls and Hispanic boys are also overrepresented in the data. The policy statement noted the well-documented connection between school suspension/expulsion and adverse school and life outcomes and the startling gender and racial disparities in preschool suspensions and expulsions. National data indicate that specific groups of children are being disproportionately expelled and suspended from their early learning settings, a trend that until recently had remained virtually unchanged over the past decade. African American boys make up 18% of preschool enrollment, but 48% of preschoolers suspended more than once. Hispanic and African American boys combined represent 46% of all boys in preschool, but make up 66% of those who are suspended. Analyses of boys, compared to girls, indicated that they make up 79% of preschoolers suspended once, and 82% of preschoolers suspended multiple times.

Several reasons for this phenomenon have been offered. Some observers believe that much of the responsibility lies in the hands of preschool teachers who are not trained well in classroom management or dealing with problem behavior, combined with a paucity of resources for supporting children with behavioral challenges. There is also concern that implicit racial bias on the part of preschool teachers and administrators clouds judgments about which behaviors are acceptable among three- and four-year-old children.[40] Since preschool is not mandatory, teachers may feel free to deny a child access. Walter Gilliam, director of the Zigler Center in Child Development and Social Policy at Yale University, conducted the original research on this topic in 2005, and recently pointed out that children who are expelled from preschool are denied the very opportunity they need to learn the accepted behaviors of the classroom.[41]

These figures, combined with national data showing that boys of color have less access to early intervention and preschool and are more likely to be suspended and expelled from school, suggest that the racial disparities seen among older students are spilling into preschool. Some advocates have gone so far as identify these negative preschool experiences as the first step on the "preschool to prison pipeline" for boys of color.[42]

In 2016, Head Start programs were prohibited from suspending or expelling a child because of his or her behavior, and were required to implement chapters of the joint ED/HHS policy statement related to programs.[43] The report recommended instituting guidance and preventive practices, creating and communicating explicit suspension and expulsion policies, and perhaps most importantly, providing teachers with knowledge and skills in

- promoting children's social-emotional and behavioral health and appropriately addressing challenging behavior;
- forming strong, supportive, nurturing relationships with children;
- conducting ongoing developmental monitoring, universal developmental and behavioral screenings at recommended ages, and follow-up as needed;
- collaborating with community-based service providers, including the child's medical home, and connecting children, families, and staff to additional services and supports as needed;
- forming strong relationships with parents and families;
- acquiring a strong understanding of culture and diversity;
- using self-reflective strategies and cultural awareness training to prevent and correct all implicit and explicit biases, including racial/national origin/ethnic, sex, or disability biases; and
- eliminating all discriminatory discipline practices.[44]

Without supporting and/or changing teacher practices, the overall goals of the report—to create positive climates and focus on prevention—cannot be met.

Suspension and expulsion practices differ for children with disabilities because of IDEA mandates. Under the law, children receiving special education services cannot be suspended unless the school follows a series of due process procedures to ensure that the child's behavior is not a manifestation of his disability. According to the 2013-2024 Office of Civil Rights (OCR) Data Collection report,[45] the expulsion of children identified with a disability is extremely rare, and must be accompanied by recommendations for an alternate placement approved by the child's parents, since each child with a disability is entitled to a free and appropriate public education. The OCR's report, based on a survey of all public schools and school districts in the United States, found that children with disabilities were not overrepresented in the suspension and expulsion data.

A more recent research report on data that were not limited to public school district preschools tells a different story. A sample of 6100 3-5-year-olds attending preschool or child care was taken from the US Census Bureau's 2016 National Survey of Children's Health (NSCH).[46] Families were asked whether their child had a diagnosis of a disability or a mental health problem, and about discipline practices in their child's preschool or daycare. In this report, a suspension or expulsion was

> any situation where a parent was asked to keep a child at home for a full day or more (out-of-school suspension) or being informed that a child could no longer attend the program ("hard" expulsion).[47]

"Soft" suspensions, in which, for example, a parent was asked to pick up the child early, were assessed but not considered in the final analyses.

Children who had the following conditions were included in the analyses: those who would qualify for special education under the law, with an identified learning disability, attention deficit hyperactivity disorder (ADHD), autism spectrum disorder, developmental delay, or speech delay; and those with conditions that could affect school behavior, in this case anxiety or behavior problems. Some disability categories (e.g., cerebral palsy) were not reported in sufficient numbers for the analyses. The authors concluded:

> …children ages 3 to 5 with disabilities and or emotional and social challenges, while comprising just 12 percent of early childhood program populations, represent 75 percent of suspensions and expulsions. The odds of being suspended or expelled are more than 14.5 times higher for children with disabilities and emotional challenges than for their typically developing peers.[48]

The census study is limited by the fact that the data on children's diagnoses and mental health conditions come from parent reports, and it does not address the legal requirement under IDEA that children's due process rights be respected when they are expelled. But the

findings are consistent with concerns that preschool teachers are not generally well prepared to support children with special needs.

California has reduced the rate of suspensions and expulsions in K-12 schools by 46% over the last five years,[49] but does not document the number of annual suspensions and expulsions in preschool. In October 2017, Governor Brown signed Assembly Bill 752, prohibiting state preschools from expelling children with challenging behaviors without making sustained efforts to maintain them in the program.[50] The program must consult with the child's family or legal guardian, assess the child's social-emotional development, refer the family to community resources (such as other programs for the child), and implement behavior supports within the program before referring the child for an assessment for special education eligibility. The law does not address suspensions.

So far, the only guidelines for California relate to expulsion, and they apply only to state preschools. Children in California's Head Start programs can also be assured of procedural safeguards. But children in private or public school programs have no such protection.

Conclusions

California needs to increase efforts to identify and serve infants and toddlers. Disproportionality of access and services is a messy, complicated issue beyond the scope of this paper, and we know little with certainty, especially given the lack of data on the ethnic makeup of the Part C population. However, participation in Part C/Early Start in California is considerably lower than preschool participation, leading to the conclusion that Child Find services for children under three and their families are failing to bring children into services, and thereby potentially increasing their need for later special education.

While concerted efforts are being made to identify infants and toddlers who are eligible for Part C services, there does not appear to be accountability regarding how and to what extent the Department of Developmental Services and the Department of Education implement this requirement. Documentation of outreach efforts is needed for analysis.

More data must be collected on preschool suspensions and expulsions in California. We need information about how suspensions and expulsions occur across a wider range of preschool settings, and more explanation of why these events occur in our state.

Preschool teachers need better training to support children with special needs, and suspensions and expulsions need to be reduced. Too many children are being suspended and expelled from the very services they need the most. Many three- to five-year-old California children experience the kinds of adverse childhood experiences that place them at risk for school problems. They may be in foster care, have been exposed to drugs in utero, and/or be experiencing domestic or community violence, homelessness, or abuse and neglect. Often these "toxic stress"[51] factors are compounded by poverty. Some of these children are identified with disabilities, and others with mental health problems such as anxiety, depression, or aggressive, noncompliant behavior. Some may be active but normal children. These children need preschool and child care settings that provide secure relationships with caregiving adults

who can set positive guidelines for their behavior. They need the teaching and modeling of healthy social-emotional development. None of this is available when they are suspended or expelled from preschool or daycare. Teachers and caregivers must have professional development that focuses on strategies for building positive behavior in the children they care for.

Interagency collaboration could result in better support for teachers, children, and families to address preschool suspensions and expulsions. The state has spent millions of dollars through the Mental Health Services Act to train community Department of Mental Health providers to serve families of infants, toddlers, and preschoolers with significant social, emotional, and behavioral concerns. First 5 community agencies have also supported this training. Interagency coordination between county departments of mental health and the Department of Education to support young children and families could result in improved preparation for teachers and greater support for families.

Identification of Children for Special Education Services

Infants and Toddlers Birth to Three Years Old

The relatively small number of infants and toddlers receiving Early Start services in California raises questions about access to developmental and behavioral screening for California families. We first examine what should happen.

Screening. Developmental and behavioral screening involves briefly observing children and interviewing their caregivers using a standardized tool to determine whether they meet developmental and behavioral norms. Screening in itself does not result in a diagnosis. Children who do not meet the norms on the screening tool should be referred for a deeper, individualized assessment from a professional to determine whether they have a developmental or behavioral delay that may lead to a diagnosis of disability and a need for early intervention.

Screening most commonly occurs as part of well-baby pediatric visits in the first three years of life. Since 2001, the American Academy of Pediatrics (AAP) has recommended

> conducting developmental surveillance at every health supervision visit and conducting developmental screening using formal, validated tools at 9, 18, and 30 months or whenever surveillance reveals a concern. In addition, the AAP recommends that all children be screened for autism spectrum disorder at 18 and 24 months. Furthermore, the AAP recommends that children are screened with formal, validated tools at regular intervals for behavioral and emotional problems beginning in the first year of life.[52]

While the percentage of pediatricians who follow these recommendations appears to be increasing, an AAP survey of its fellows found that fewer than half of those surveyed used the recommended screening tools with patients younger than 36 months.[53] Many preferred to use

clinical observation to come to a decision about whether to refer the child to a specialist or to early intervention services.

A recent survey indicated growing awareness of the importance of making referrals for in-depth assessment and possibly for early intervention for children who appear, based on screening results, to be at risk. Ninety-seven percent of pediatricians reported that they had made referrals for children with suspected developmental delay or autism.[54]

But not all infants and toddlers visit a doctor regularly, and not all doctors screen consistently. Some infants are referred directly for assessment to the Early Start program at one of the 21 California regional centers funded through the Department of Developmental Services. (Hospitals with neonatal intensive care centers, for example, should make a referral when a child with a high-risk factor like extreme prematurity is discharged.) Family members can also call their local regional center and request an assessment for their child, but can be turned away if they do not appear to meet regional center qualifications. Children in Early Head Start programs can be screened and referred to their local regional center as well.

The recent landscape analysis from the California Departments of Public Health and Developmental Services noted that despite a range of options for screening in the state, in 2011-12 just 28.5% of children ages 10 months to five years received developmental screening, with California ranking 30th in the country.[55] Barriers to screening were identified at several levels. At the health care provider level, there are issues of low attendance at well-child visits; lack of time, resources, and training on the part of the pediatrician; reliance on clinical impressions rather than validated screening tools; and poor reimbursement formulas for physicians who screen. At the policy and public health level, there is no statewide system to determine whether a child has been screened, and no coordination among the fragmented offices and agencies that provide screening. In the family and community, there may be little knowledge of developmental milestones or of the need for the pediatrician to screen. Some families may be resistant to having their child screened and thereby having to acknowledge the possibility of a stigmatized disability. The report mentions the additional problem of "long wait times and lack of supports to help families navigate referrals and other services."[56]

Assessment for Early Start Eligibility. Once a child has been referred to a regional center Early Start program, assessment must occur within 45 days in the five areas specified in Part C of IDEA: physical development, cognitive development, communication, social or emotional development, and adaptive development. Each state has some freedom within those broad categories to define how infants and toddlers will be identified.

According to California policy,

> Infants and toddlers from birth to age 36 months may be eligible for early intervention services through Early Start if, through documented evaluation and assessment, they meet one of the criteria listed below:

- have a developmental delay of at least 33% in one or more areas of either cognitive, communication, social or emotional, adaptive, or physical and motor development including vision and hearing; or
- have an established risk condition of known etiology, with a high probability of resulting in delayed development; or
- be considered at high risk of having a substantial developmental disability due to a combination of biomedical risk factors …which are diagnosed by qualified personnel.[57]

In California, the lead agency (the term in the law for the agency that develops and coordinates services for children birth to three) for Early Start is the Department of Developmental Services (DDS). DDS contracts with one of the 21 regional centers, which are nonprofit private corporations providing services and supports to children from birth to age three and to specific groups of older children and adults with developmental disabilities.[58] Each regional center is an independent entity, and while all must adhere to federal and state laws and regulations, each center makes up its own policies. For example, one regional center may decide that it will not offer speech and language services to a child until the age of 18 months, while an adjacent regional center might offer those services as soon as they are recommended for a child. The variations in policies across the regional centers make it difficult to compare their results and effectiveness. Overall, regional centers do not appear to recognize that speech and language services should be available to infants and young toddlers to address the pre-linguistic skills that form the foundation for speech and language development.

Eligibility determination. If assessment determines that a child is eligible for Early Start services, a regional center case coordinator meets with the family to draw up the Individualized Family Service Plan (IFSP), which identifies desired outcomes for the child and family and the services they will receive to achieve these outcomes. Family outcomes are included in the IFSP so that families can receive the information and support they need to understand and meet the child's needs.

The table below indicates that in 2014-2015, 35.9% of California children in Early Start (Part C) went on to preschool special education services, with 24.5% having undetermined eligibility at the time the data were collected.

Table 6. Percentage of Infants and Toddlers Birth through Age 2 Exiting or Continuing in IDEA, Part C: 2014-2015[59]

	No longer eligible for Part C prior to reaching age 3	Part B eligible, exiting Part C	Part B eligible, continuing in Part C	Not eligible for Part B, exit with referrals to other programs	Not eligible for Part B, exit with no referrals	Part B eligibility not determined	Other explanations
All States	17.6	35.8	3.2	5.2	3.0	12.2	22.9
California	33.6	25.0	0.0	7.0	0.0	24.5	9.9

Is California's Early Start fulfilling its prevention responsibility? Almost 34% of children are no longer eligible for special education at age three, and another 7% are not eligible and referred to other programs (likely Head Start or other public programs serving typical preschoolers). That's 40.6% of children exiting Part C with no special education services, while22.8% of children in all states do so. An explanation for that disparity is difficult to determine because of two factors. First, states differ in their eligibility requirements for early intervention. California accepts children with a 33% developmental delay, while some other states require a 50% delay. Second, twice as many children in California as in all states (24.5%, 12.2%) did not have Part B eligibility determined when the data were collected, possibly contributing to the delayed completion of Transition IEPs in California.[60]

Preschool-age Children (3-5 years old)

Assessment to determine eligibility. As children in Early Start approach their third birthday, they are assessed by their local school district to determine whether they continue to be eligible for special education services. That assessment, often conducted by a school psychologist, can determine whether the child meets the criteria for special education services by comparing the child's performance to age norms. To be eligible for services, the child must show evidence of the characteristics of one of 13 categories of disability described in IDEA (see table on page 6 of this report). Those who remain eligible after early intervention (Part C of IDEA) are transitioned to Part B with a Transition IEP, which must be completed by the school district by the child's third birthday. In addition to meeting the criteria for one or more of the disabling conditions, a child must need "specially designed instruction or services" to qualify for special education. Also, the child must have needs that cannot be met by modifying the home or school (or both) without ongoing monitoring or support. The IEP is then written by a team of professionals and the child's parents and contains individual goals for the child, related services such as speech and language support or adaptive physical education, and any accommodations necessary to enhance the child's access to learning.

During the preschool years, typical children are also screened for developmental delays and disabilities by physicians, Head Start programs, hospitals, and other agencies. If screening results for preschoolers show developmental lags, the parent can then request that the school

district assess the child for special education eligibility. A parent must make a request for assessment in writing, date it, keep a copy, and take it to the office at their local public school. The school must respond to the parent within 15 days with a written assessment plan, and conduct an assessment on the child within 30 days. While there is no documentation to prove it, it is likely that this relatively cumbersome process prevents some families, particularly those who do not speak English, from requesting an assessment and potentially obtaining special education services for their children.

Once the child has been assessed by the school district, an IEP meeting is held. When the assessment results are reported, the IEP team (which includes the parent) decides whether the child qualifies for special education services. If the child qualifies, goals and accommodations are written into the IEP, and placement in the public preschool program can begin.

Conclusions

California has a fragmented system of screenings with no central registry. The system is cumbersome and depends heavily on parent initiative. The authors of the California landscape analysis offered the North Carolina ABCD system as a potential model.[61] That system has resulted in mandated developmental screenings for children in families receiving Medicaid and standardized linkages to referrals, follow-up, and community services, among other resources. The North Carolina program has raised the rates of developmental screening for Medicaid-eligible children from 12% in 1999 to 91.4% in 2015. A similar model would be useful for California, where a lack of data, few incentives, and poor coordination of services appear to be limiting the access of young children at risk to the services that might identify their need for further evaluation, and ultimately lead them into early intervention services. The California Statewide Screening Task Force is currently working to map and analyze screening statewide and to develop policy recommendations for the state.[62] Many committed professionals are working to improve screening in California, but their efforts have been fragmented and the results until now have been disappointing and frustrating.

Where Do Young Children with Disabilities Attend School?

At the heart of special education law and the values of most practitioners is the concept that children with disabilities should receive their education in the *least restrictive environment* (LRE). The phrase comes directly from Part B of IDEA 1975, and means that each child with a disability shall, "to the maximum extent possible," be educated alongside nondisabled peers. When the law was passed in 1975, fewer than 50% of all children with disabilities went to school at all. The emphasis on LRE comes from the historical segregation and abuse of children with disabilities in schools, hospitals, and institutions.

Much has changed in the last 39 years. In 2015, 62.7% of the nation's 6,050,725 children with disabilities ages 6-21 spent at least 80% of their school day in the regular classroom, and 94.8 % of students were educated in regular classrooms for at least some portion of the school day. Only 5.2% received their schooling in environments that would largely be considered "restrictive" under the law (separate schools, residential facilities, homebound/hospital

environments, correctional facilities, and private schools chosen by the parents).[63] Since IDEA was passed in 1975, the gradual implementation of the LRE concept, along with the inclusion of all children with disabilities in public schools, has dramatically changed American public education in a manner that is not always understood or acknowledged.

Birth to Three

Though the language of LRE is not contained in Part C, it does require that whenever possible, early intervention services be provided in *natural environments,* places such as the home and other community settings in which typically developing children are also found. The law states that "to the maximum extent appropriate, early intervention services are provided in natural environments; and the provision of early intervention services for any infant or toddler with a disability occurs in a setting other than a natural environment that is most appropriate, as determined by the parent and the individualized family service plan team, only when early intervention cannot be achieved satisfactorily for the infant or toddler in a natural environment."[64]

IDEA defines the child's natural environment as "settings that are natural or normal for the child's age peers who have no disabilities."[65] In practice, this means providing services such as parent education, home visits and intervention programs as much as possible within the child's everyday routines, relationships, activities, and places in partnership with service agencies and the family's community.

In California, the majority of those services are provided in the child's home, as shown in the table below.

Table 7. Percentage of infants and toddlers birth through age 2 served under IDEA, Part C (Primary Early Intervention Service Settings Fall 2015)[66]

	Home	**Community-based setting**	**Other setting**
All States	88.7	7.3	4.0
California	82.0	11.2	6.8

"Community-based setting" refers to settings in which children without disabilities are usually found. Community-based settings include, but are not limited to, child care centers (including family day care), preschools, early childhood centers, libraries, grocery stores, parks, and restaurants. "Other setting[s]" include, but are not limited to, hospitals, residential facilities, clinics, and early intervention centers/classes for children with disabilities.

Since both the home and community-based settings are considered natural environments, combining those two columns indicates that 93.2% of infants and toddlers birth

through age two in California receive early intervention services in natural environments, compared to the 96.0% average of all the states.

Preschool-aged Children (3-5)

Placement of preschool-age children with IEPs, the written plan that specifies the placement, goals, services, and accommodations the child will receive, occurs in a range of programs. IDEA still requires that a continuum of program placements be available to each child, from the least restrictive (the regular classroom) to the most restrictive (skilled nursing and intermediate care facilities, for example) settings. The table below compares the settings in which California preschoolers attend school compared to preschoolers in the US as a whole.

Table 8. Educational Environment, Ages 3 through 5 Years[67]

	CWDs Attending and Receiving the Majority of Special Education and Related Services in a Regular Early Childhood Program	CWDs attending 10 hours or less in a regular classroom, majority elsewhere	CWDs Attending a Separate Special Education Class, Separate School, or Residential Facility	Other (Home, Service Provider Location)
Nation	41.7	27.6	26.9	8.5
California	39.0	19.4	36.9	12.2

[1]CWDs = All children with disabilities

A regular early childhood program includes a majority (i.e., at least 50%) of children without disabilities. Regular early childhood programs include, but are not limited to, Head Start, kindergarten, state preschools, preschool classes offered to an eligible pre-kindergarten population by the public school system, private kindergartens or preschools, and group child development center or family child care.

Separate class, separate school, and residential facility are categories of special education programs that include fewer than 50% children without disabilities.

"Service provider location" refers to a situation in which a child receives all special education and related services from a service provider or in some location not in any of the other categories, including a regular early childhood program or special education program in a separate class, separate school, or residential facility. This does not include children who receive special education and related services in the home. An example is a situation in which a child receives only speech instruction that is provided in a clinician's office.

California preschoolers with disabilities are more likely to be in separate classes. Markedly more children in California than in the US as a whole attend a separate special education class in which they have little opportunity to interact with their nondisabled peers.

A January 2017 "Dear Colleague" letter from the federal Office of Special Education Programs[68] noted that even after a 2015 policy statement advocating preschool inclusion and the expansion of public preschools supported by federal funding, "there has not yet been a proportionate expansion of inclusive early learning opportunities for young children with disabilities." The Department of Education found it necessary

> to reaffirm the position of the US Department of Education (ED or Department) that all young children with disabilities should have access to inclusive high-quality early childhood programs where they are provided with individualized and appropriate supports to enable them to meet high expectations.[69]

Like other states, California is hampered in its attempts to provide inclusive classes for preschoolers with disabilities by a shortage of public preschool classes. Cross-bureaucracy inclusive placements (e.g., in the CSPP or Head Start programs) are cumbersome and limited. School districts have no authority to place students in either Head Start or state preschool. The differing governance models of the programs establish separate and sometimes conflicting sets of regulations that create significant stumbling blocks to including special education students in state preschools. If a child with an IEP attends a Head Start or state preschool program, the district can support the child with related services (e.g., speech therapy, physical or occupational therapy) in this setting. But the "siloing" of separate systems providing preschool services interferes with a coordinated effort to expand preschool inclusion in California.

The 2015 report of the State Special Education Task Force,[70] which focused on improving outcomes for children in special education, recommended expanding early intervention and preschool special education options in California as a way to prevent later school failures. The authors also noted, however, that there are relatively few public preschools in California, and that this limits the possibilities for preschool inclusion.

According to a 2015 national survey of 238 early childhood special education professionals, the major barrier to preschool inclusion across the US is the attitudes and beliefs of those involved.[71] Policy differences between systems also create barriers, but participants voiced concerns about lack of collaboration between general and special educators, the possibility that children with disabilities or typical children would "lose out" and not receive the services they need, and teacher preparation, along with descriptions of a lack of awareness of the benefits of inclusion, turf battles, and lack of respect. While the scarcity of preschool programs for inclusion is the major obstacle, it is not the only one.

Conclusions

The relatively small number of public preschool programs in California limits critical opportunities for inclusion. One method of addressing this problem would be to require state preschools to reserve 10% of their slots for children with IEPs. This change would require additional professional development for state preschool teachers on topics such as the learning characteristics of children with disabilities, the accommodations and adaptations required to support them, IEPs, and positive behavior support.

California should make every effort to identify more opportunities to include preschoolers with disabilities in general education settings, and to build up preschool teachers' knowledge and skills for working with children who are diverse in their learning characteristics and behaviors. These changes could improve preschool for all children.

Training and Qualifications of Personnel Serving Young Children with Disabilities

ECSE Credential

There are 16 Commission on Teacher Credentialing (CTC) approved programs that offer the Education Specialist Instruction Credential in Early Childhood Special Education (ECSE) in California. Nine are in California State University colleges of education, three are in private colleges or universities, and four are in local education agencies (LEAs). LEAs have developed their own programs because the need for teachers could not be met by the university programs, where enrollments have been declining.[72] An "added authorization" in ECSE is also available to those who already hold a special education teaching credential and who complete an ECSE added authorization program. There are 19 Commission-approved programs for the added authorization in ECSE. Both the ECSE credential and the added authorization allow the holder to "provide special education services in the area of mild/moderate or moderate/severe disabilities, and traumatic brain injury for students ages birth to preK, as determined by the local level special education assessment."[73] There are separate program standards for the full specialty area of ECSE and the ECSE added authorization. Both sets of program standards were revised in 2013.

While no subject-matter competency is required for the ECSE credential, as it is for other teaching credentials, the ECSE credential is built on a required undergraduate major in Child Development or a closely related field. (An example is Communication Disorders, where there is an emphasis on child language development.) The credential is most often a fifth-year postgraduate program with two tiers, although some universities are currently developing blended undergraduate programs. Tier one, the Preliminary credential, is issued after all required coursework and practica are completed, and lasts for five years. Within those five years, the teacher must enroll in an Induction program (tier two), designed to provide support for new teachers. Induction programs can be offered by school districts or University programs. In university programs, they are often built into a master's degree program in Special Education with a specialization in ECSE.

Teacher candidates must meet competencies in a set of Common Standards as well as the 10 specific specialty standards listed below:[74]

1. Theoretical, Philosophical, and Empirical Foundations
2. Typical and Atypical Child Development
3. Role of Family in Early Childhood Special Education
4. Assessment and Evaluation of Infants, Toddlers and Preschoolers

5. Individualized Family Service Plan, Individualized Education Program and Transition
6. Intervention and Instructional Strategies: Birth through Pre-Kindergarten
7. Learning Environments
8. Collaboration and Teaming
9. Low Incidence Disabilities in Early Childhood Special Education Programs
10. Field Experience in Early Childhood Special Education Programs

Competencies are assessed within courses and the two practica/field experiences. The Commission on Teacher Credentialing requires that an average grade of B or better be earned before the credential can be granted.

National Professional Standards

The professional organization for early childhood special educators is the Division of Early Childhood (DEC) within the Council for Exceptional Children (CEC). Both organizations have sets of standards for teachers that are consulted by teacher preparation programs.[75] DEC also has a set of "Recommended Practices" that are used in many programs and cover the topic areas of leadership, assessment, environment, family, instruction, interaction, teaming and collaboration, and transition.[76] Recently the CEC published Initial and Advanced Specialty Sets for Early Childhood Special Education and Early Intervention, which list the knowledge and skills required for practice in those areas.[77]

Training and Preparation for Early Intervention Providers

Early intervention involves an individualized set of services and an interdisciplinary practice that can be provided by a range of professionals, depending on the child's disability and on the outcomes specified in the Individualized Family Service Plan (IFSP). For example, if the child needs to make progress in independent movement, the physical therapist is likely to provide the service; if the child has feeding problems, the occupational therapist usually steps in. Specialized instruction, often provided in the home and focused on coaching the parent or caregiver in using strategies designed to meet the child's IFSP-designated outcomes, is provided by either an Early Intervention Specialist or an Early Intervention Assistant under the supervision of an Early Intervention Specialist. These individuals are employed by small programs supported by per-child, per-hour funding from the Department of Developmental Services through the local regional center.

Competencies and practica for working with children from birth to three and their families are part of the Educational Specialist Instruction credential in Early Childhood Special Education described above, which requires an undergraduate degree in child development as a prerequisite. The credential is not, however, required for Early Intervention Specialists in

regional center-vendored programs (those with whom a regional center contracts to provide the services).

Early intervention service providers that are associated with regional center-vendored programs provide more than 90% of IDEA Part C services for infants and toddlers in California. Section 56724 of the Title 17 regulations indicates that the direct care staff of infant development programs must possess 1) the education and experience required in the job description; and 2) the ability to perform the functions required in the program design.[78] Typically there are no specific education requirements mandated for providers in these programs.

In the current model for in-home early intervention services, the specialist "coaches" the family member in strategies designed to teach the child functional skills (skills needed in everyday life such as independent eating, communicating needs, and so on) and to further the child's development in the five domains named in Part C of IDEA: physical, cognitive, communication, social or emotional, and adaptive (self-help and independence).

While there is no mandated education requirement for Early Intervention Assistants, preparation programs are offered in many California community colleges. The Santa Monica Community College program, for example, offers a certificate program requiring 27 units of coursework, which includes child development, two special education courses, and a practicum.[79]

Part C of IDEA calls for a Comprehensive System of Personnel Development (CSPD) in early intervention to guarantee a well-prepared early intervention workforce. This system was necessary because in 1986, when the law was amended, there were few programs or agencies delivering these services and few trained professionals. In 2010, the California Early Start Personnel Manual Workgroup, composed of professionals from across the spectrum of educators and service providers, published a document designed to set standards for personnel development in Early Start early intervention programs and to strengthen California's CSPD:

> A stronger system in California will be evidenced by personnel that are fully academically prepared and trained to the highest standard joining early intervention programs and teams, ready to work with infants, toddlers and their families. It is recommended that early intervention personnel in programs provided through regional centers and local education agencies (LEAs) meet these highest standards.[80]

The issue of concern in California has been that despite the existence of professional standards governing early intervention practitioners, there is no mandate for the regional center-vendored programs, most of which are small private agencies, to hire applicants with certificates or credentials in early intervention or early childhood special education. The funding from the Department of Developmental Services via the regional centers does not enable programs to offer salaries that are anywhere near those of credentialed ECSE preschool teachers, or even regular preschool teachers. Usually these workers are paid by the hour with reimbursement for mileage as they travel from home to home. There is no requirement for education beyond high school graduation. As a result, most graduates of the state's early

childhood special education credential programs go to work in public preschools, where they can be salaried like other teachers and receive health and retirement benefits.

Teacher educators in ECSE are members of their own professional group, the California Association of Professors of Early Childhood Special Education (CAPECSE). Members of this group have been advocating since the inception of the ECSE credential in the 1980s to require the ECSE Specialist teaching credential for early interventionists. They have been stymied by the fact that Early Start and preschool services are administered by different state agencies within California (DDS and DOE), so there is little incentive to equalize standards for teacher preparation. Those agencies are funded differently. Services through the regional centers and DDS are less expensive than those provided through school districts, where credentialed teachers provide services.[81] In addition, restricted funding from DDS (whose budget was cut back after the 2008 budget crisis and has not returned to pre-recession levels) means that most regional center-vendored early intervention programs operate on a shoestring. They often must do their own fundraising to buy materials or any extras for the program. With the current differing administrative structures and budgeting formulas of the two programs, there seems to be little hope that standards for early interventionists will be raised.

Training and Preparation for Preschool Teachers

In California, over half of preschoolers with disabilities spend at least 10 hours each week in a regular preschool program.[82] These might be Head Start programs, state preschools, or school district child care centers. Teachers in those programs may have the California Child Development permit or an undergraduate degree in Early Childhood Education or Child Development. The programs leading to those permits or degrees do not typically include a course in special education or teaching children with disabilities. If the teacher has a Multiple Subject (Elementary) credential (which very few do), he or she has taken only one course in special education, a survey course on disabilities and issues that focuses on K-12 education, but not early childhood education. Consequently, most regular preschool teachers lack preparation for working with young children with disabilities. This poor preparation exists despite the fact that Head Start programs are mandated to reserve 10% of their slots for children with IEPs. Some Head Start programs have a Disabilities Coordinator who can suggest accommodations for a child and assist the families of children with IEPs in making the transition to public schools.

Public preschool special education teachers are required to hold a California ECSE credential. Because of the ongoing special education teacher shortage, which exists nationally but is particularly acute in California, the state has approved intern credential programs in areas where teacher shortages exist.[83] Intern credentials enable the holder to teach in public schools before they have completed the credential requirements. Prospective interns must first take preliminary coursework; when they take a teaching job in a school district, they must concurrently enroll in a teaching credential program while they begin their teaching. Intern programs began in the mid-1980s to meet the ongoing need for special education teachers. In the last year for which data were available (2015-16), the University Intern program (tier one) was offered by the nine California State University campuses and three private universities. Three county offices of education offered district internships, and a program from the Los

Angeles Unified School District was recently approved. Additional teachers are credentialed from out-of-state and through direct applications. Some districts are going so far as to recruit and hire teachers from outside the country.

The table below shows the numbers of completed credentials, intern credentials, permits and waivers issued by the Commission on Teacher Credentialing for Early Childhood Special Education over the last 10 years. The Commission describes a permit as "short-term staff and provisional internship" and a waiver as "issued to an individual based on the request of an employer when a fully credentialed educator is not available for the assignment. It allows the employer to fill the assignment while searching for a fully credentialed educator and gives the waiver holder additional time to complete requirements."[84]

Table 9. CTC-Issued Early Childhood Special Education Teaching Authorizations 2009-2017[85]

Year	Credentials	Intern Credentials	Subtotal	Permits	Waivers	Total
2016-2017	238	125	363	150	35	548
2015-2016	207	118	325	133	19	477
2014-2015	192	85	277	117	37	431
2013-2014	202	79	281	102	37	420
2012-2013	258	60	328	108	47	483
2011-2012	219	44	263	98	59	420
2010-2011	251	70	321	18	42	381
2009-2010	240	88	328	9	59	396
2008-2009	233	*	233	24	92	349

*No explanation supplied for missing data.

At first glance, it appears that districts needed many more credentialed teachers than they had, but the Commission discourages this interpretation of the data, since there are no data on the number of qualified applicants for the open positions or the number of qualified teachers leaving the field. According to the Commission, "Currently there is no statewide method of collecting data that quantifies Teacher Demand."[86] It is clear from the table, however, that in 2016-2017, 310 of the individuals placed in classrooms were not fully credentialed, and 238 were. While this does not describe the total number of teachers in ECSE classrooms, it does suggest that many of the individuals teaching preschoolers with disabilities are not fully credentialed.

Despite such efforts, there remains a significant teacher shortage in all of special education, including early childhood. Increasing demand coupled with diminishing supply and the increasing number of sub-standard teaching certifications (waivers and intern programs) cannot help but affect the school success of children with disabilities. According to a recent

report, nearly half of all special education teachers (48%) in California are not fully prepared, and there is a significant discrepancy between supply and demand.[87]

Conclusions

California continues to experience a shortage of qualified early intervention specialists and ECSE preschool teachers. As long as early intervention providers are receiving minimum wage or slightly better and no financial incentives are provided, they will have little reason to continue their education, whether to obtain a community college certificate or an ECSE teaching credential. Holding early intervention providers to a higher standard of preparation would no doubt benefit children, but it would likely lead to an even more dramatic undersupply of teachers. California must find a way to address the fact that the youngest children and their families are mostly served by the least-trained individuals.

In addition, the state does not appear to be keeping up with the need for fully credentialed ECSE preschool teachers (given the number of intern credentials and waivers issued each year). The advantage here is that most ECSE preschool teachers will ultimately become fully credentialed. With growing child populations and teacher retirements, though, we cannot foresee a time when the need for ECSE teachers will be met in California.

Interventions for Children and Families

Interventions for young children with disabilities follow two tracks. The first consists of the curriculum and experiences appropriate for any child of the same age. The second is individualized interventions, based on assessment of the child's learning and developmental characteristics, disability and specific needs, and what the child must learn to approach the norm for his or her age. The child's individual goals are based on the results of that assessment, and vary from child to child. They are explicitly identified in each child's IFSP or IEP.

Birth to Age Three Years

Early intervention services under IDEA Part C may include:

- Family training, counseling, and home visits
- Special instruction
- Speech-language pathology, audiology, sign language, and cued-language services
- Occupational therapy
- Physical therapy
- Psychological services
- Service coordination services
- Medical services only for diagnostic or evaluation purposes
- Health services necessary to enable the infant or toddler to benefit from the other early intervention services
- Respite that allows parents to participate in early intervention services
- Social work services
- Assistive technology devices and assistive technology services

- Transportation and related costs that are necessary to enable an infant or toddler and the infant's or toddler's family to benefit from services in the individualized family service plan[88]

No child receives all of those services. Typically, a set of services is identified in the child's IFSP that matches his or her developmental needs. Built into Part C of IDEA and the field itself is a commitment to "family-centered care," since families are the context for most learning for infants and toddlers. The law requires that both child and family outcomes be included in the IFSP.

Some young children need highly specialized services. School districts are primarily responsible for providing services to children 0-3 years who are blind, deaf, deaf-blind, or have a severe orthopedic disability (low-incidence disabilities). Teachers for these programs come out of the longest and most demanding teacher preparation programs because of the specialized skills required, such as braille and sign language. They are in great demand.

Preschool (3-5-year-olds)

Children with IEPs in California's public preschools are exposed to the same foundations and curriculum as other children. The accommodations listed on each child's IEP should describe the supports that the child will need to access school curriculum and activities. For example, a child who is blind or has low vision may need tactile exploration of materials; a child who is minimally verbal may need to use gestures, signs, or assistive technology to make choices or communicate needs. Each child, however, is expected to learn the same concepts as other children. In addition, each child has individualized goals on his or her IEP that the school program must address as well. Early childhood special education teachers are also expected to use the evidence-based instructional practices of their field.[89]

California Preschool Foundations. California uses the term "foundations" instead of "standards" to describe the knowledge and skills that should be mastered by children who attend a high-quality preschool program. The California Preschool Foundations cover the following nine areas in three volumes: Social-Emotional Development, Language and Literacy, English-Language Development, Mathematics, Visual and Performing Arts, Physical Development, Health, History–Social Science, and Science.

The California Preschool Curriculum Frameworks correspond with the Foundations in an additional three volumes. The English Language Development component of Volume 1 of the Foundations and Curriculum Frameworks is designed to support California's preschool children who are dual language learners. They focus on the development of listening, speaking, and writing. The foundations and curriculum frameworks apply to special day classes (segregated programs) and to regular education programs. Some districts may use a specific curriculum as well. Los Angeles Unified, for example, mandates the Creative Curriculum, which was designed for typically developing children but includes accommodations for children who need them.[90]

In addition to the California Foundations and local curricula, children with disabilities typically receive individualized "related services" matched to their disability-specific needs. The most common of these is speech and language therapy.

Measuring Intervention Outcomes

In 2014, the federal Office of Special Education Programs announced a change in the focus of state monitoring from an emphasis on compliance with IDEA procedural regulations to an emphasis on improving educational outcomes and results for children with disabilities in an effort known as "results-driven accountability."[91] Each state is required to submit a yearly State Systemic Improvement Plan with its Annual Performance Report, which describes how its children with disabilities are progressing in meeting three outcomes. States are required to report on the percent of infants and toddlers with IFSPs or preschool-age children with IEPs who demonstrate improvement in

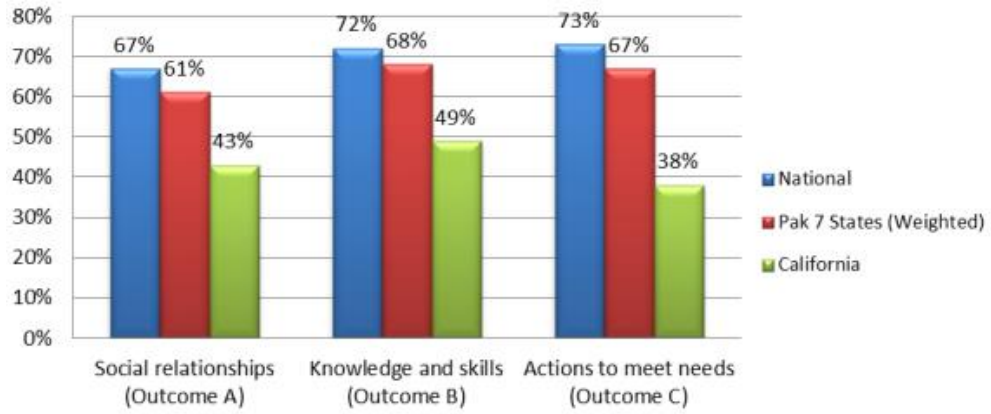
1. positive social-emotional skills (including social relationships);
2. acquisition and use of knowledge and skills (including early language/communication [and early literacy]); and
3. use of appropriate behaviors to meet their needs.[92]

California has identified the first outcome as its focus for Early Start. The outcomes are measured in two different groups of children: "infants and toddlers who were functioning within age expectations in each outcome by the time they turned 3 years of age or exited the program" (this group is referred to in Summary Statement 2) and "those who entered below expectations in each outcome but who made substantial progress by the time they turned 3 years of age or exited the program" (Summary Statement 1). The first group includes children with less severe disabilities, such as mild developmental delay or communication delay, and the second group includes children with more severe disabilities.

The scores related to the target outcomes are derived from a range of assessment tools. School district programs use the Desired Results Developmental Profile (DRDP),[93] an observational assessment conducted by the child's teacher, who assesses the child across the developmental domains on an ongoing basis. The results are reported in fall and spring through the school district or SELPA to the DOE, which ultimately reports the change scores to the federal government. Regional center Early Start programs (which are the majority of early intervention programs in the state) do not use the DRDP. Until recently there has been no uniform assessment tool used by early intervention programs that regional centers contract with.

How do California toddlers perform on the target outcomes? In federal fiscal year 2012 California performed above the national average on Summary Statement 2 for all three child outcomes, but below the national average for all three outcomes in Summary Statement 1. The Figure below[94] summarizes California's results compared to the seven most populated states (PAK 7) and national data. More recent data has not been made available.

Figure 3. National, Pak 7 (weighted), and California for Summary Statement 1, FFY12

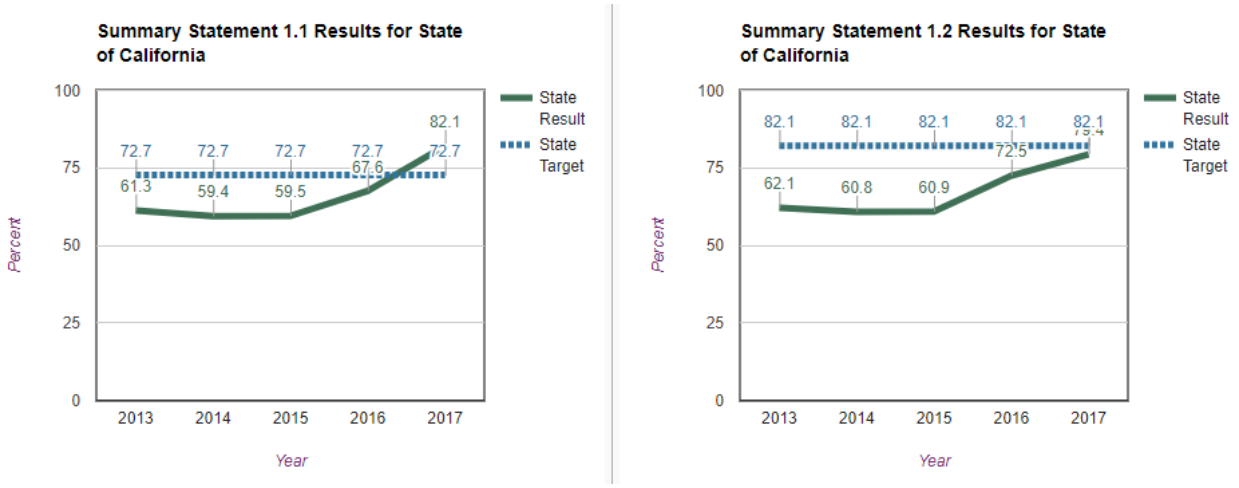


PAK7 = seven most highly populated states

To paraphrase: infants and toddlers who left Early Start/early intervention functioning within normal expectations made good progress during their time in Part C services in these outcomes, but those who entered substantially below normal expectations did not make good progress compared to the national average. However, it is important to note that each state sets its own benchmark for performance on these outcomes, and uses different assessments to determine children's progress. Comparisons among states and comparisons of state data to the national data must be made cautiously.

Preschool-age children are also evaluated on the same three outcomes using the DRDP.[95] Both subsets of preschool children (Summary Statements 1 and 2) performed below the state-identified target in each of the three outcomes, although there was improvement in 2017.

Figure 4. State of California Results Compared to State Target Over Time



Conclusions

In early childhood special education, and through collaborative services from other professionals, infants and toddlers and preschool-age children with disabilities are provided with accommodations and supports so that they can achieve functional, age-appropriate goals. But both groups of children are behind state targets in federally-identified goals in social-emotional growth, knowledge and skills, and use of appropriate behavior to meet their needs.

Through regional centers and school districts, DDS and the DOE are pushing hard on programs to improve these outcomes, and they are collaborating with national projects such as The Center on the Social and Emotional Foundations for Early Learning[96] at Vanderbilt University to provide professional development to teachers and administrators.

Why are our children not meeting these targets? The size and complexities of California provide us with a range of possible explanations. About 25% of California children live in poverty compared to the national average of 16.7%.[95] Of our kindergarteners, 32.7% are English learners.[97] It is also possible that the relatively large number of early interventionists and ECSE teachers who are not credentialed has an impact on these results. Different assessments are used by the regional centers and school districts in Early Start. There are many potential explanations, but children in California are no more disabled than those in other states that are at the average or above it. Understanding and remedying the problem should be a high priority.

Special Education Funding and Administration

The Public Policy Institute of California's (PPIC) 2016 report on financing special education estimated that special education expenses for children from birth to age 22 run about 12 billion dollars per year in California.[98] Those costs are shared by federal, state, and local agencies. Congress originally incorporated into IDEA a provision that that the federal government pay 40% of the costs of implementing the law. This percentage was based on the idea that educating students with disabilities would cost twice as much as educating other students, and 40% represented close to the excess cost. Federal funding has never come near

that level, however. The current federal share of expenses is 15.7%, with states and local school districts making up the difference.[99] As recently as June 2017, a bill was introduced in the House of Representatives proposing an incremental increase in federal funding until it reached 40% in 2027.[100] Despite bipartisan support, the bill has not yet been forwarded to committee, and will likely die quietly, as have past attempts. Part B preschool grants and Part C infant and toddler grants, like the overall Part B funds, are not fully funded; in fact, they are funded at lower levels than programs for children with disabilities K-12, for a complex set of reasons set out in the LAO report.[101]

California's program for funding special education, AB 602, was criticized by the PPIC report for failing to keep up with the rising numbers of students with disabilities and the high costs associated with students with intensive needs for support, such as those with severe disabilities and autism, and for inequities in funding levels across school districts. Special education remains the state's largest categorical funding block, while most other education funding comes with greater flexibility at the district level. When California implemented the Local Control Funding Formula in 2013 (described as "hallmark legislation that fundamentally changed how all local educational agencies (LEAs) in the state are funded, how they are measured for results, and the services and supports they receive to allow all students to succeed to their greatest potential)"[102] special education programs were not included. Five years later, no substantive financial changes have been implemented for special education except cost-of-living increases, yet billions of new dollars have been allocated to other groups (e.g., English learners and foster youth).

The PPIC report recommended changes to the state's funding mechanisms to provide a more continuous funding stream for education and to align with the recommendations for a more seamless alignment between special and general education.[103]

This report found fault with the funding of early learning programs as well. Infant programs are funded through the Department of Developmental Services, and only school districts that serve infants and toddlers with low-incidence disabilities have access to infant funds, which the report claims "are based on an outdated formula."[104] The two state agencies are not required to coordinate funding or services. There is an Annual Family Program Fee for families participating in Early Start whose adjusted gross family income is at or above 400% of the federal poverty level.[105]

In addition, the Department of Developmental Services through the regional centers is the payer of last resort; parents must exhaust other potential funding sources such as private insurance or any other private or public source before regional center funding kicks in. Districts receive no base funding for preschool programs, which can lead to accelerating special education costs when preschool caseloads rise. Many school districts are using general funds to pay for their preschool special education programs.[106] The authors conclude that "the state needs to consider how to support these programs and ensure that all eligible students receive services."[107] The table below summarizes the state funds devoted to Early Intervention Services in 2015-16.

Table 10. State Funds for Most Early Intervention Services[108] (LAO Estimates for 2015-16 (In Millions)

Program	Amount
Regional Centers: Early Start	
State Non-Proposition 98 General Fund	$289.8
Federal IDEA Part C Grant	35.9
Subtotal	**($325.7)**
Schools: Legacy Program	
State Proposition 98 General Fund	$74.8
Subtotal	**($74.8)**
Schools: HVO Program	
Federal IDEA Part C Grant	$14.2
State Proposition 98 General Fund	2.4
Subtotal	**($16.6)**
Total	**$417.1**

[a]Does not include (1) Early Start services billed to Medi-Cal and private insurance; (2) Early Start services reimbursed by federal Early Periodic Screening, Diagnosis, and Treatment funding; or (3) general purpose K-12 funds locally repurposed to support school-based early intervention.

HVO = hearing, visual, or orthopedic impairments and IDEA = Individuals with Disabilities Education Act.

Finally, the PPIC report recommends both increasing the amount of funding and simplifying special education funding, including programs for the youngest children. The report concludes that in California,

> funding for children from birth to age 4 receiving special education services seems unnecessarily complicated and gives districts a disincentive to serve the youngest population with disabilities. Infant programs are split between K–12 education and the Department of Developmental Services. The state's K–12 formula is outdated and inequitable. Additional study is needed to better understand how to better support effective services for these children.[109]

The professional organization *Zero to Three* has called for Congress to

> permanently authorize and fully fund Part C of the Individuals for Disabilities Education Act (IDEA). The 2004 reauthorization of IDEA continued Part C as a discretionary grant program without permanent authorization.... It is important to permanently authorize the Part C program with a sufficient and stable base of funding. Doing so will ensure responsive and effective services and supports for infants and toddlers with or at risk of

developmental delays or disabilities and their families—significantly boosting the promise of a bright future for children, families, and communities.[110]

We agree that a permanent authorization of Part C on the federal level and a sufficient and stable funding base from the federal government and the state of California are crucial to implementing services for infants and toddlers as specified in IDEA.

Conclusions

The fragmented system of funding early intervention and special education should be united, streamlined, and made equitable with K-12 funding formulas. A predictable, adequate funding base would provide a necessary foundation for the improvement of services to children, compliance with federal mandates, and improved performance on child outcomes. Using general funds to pay for special education services is not a sustainable model and will ultimately cause districts to cut services to general education programs.

Overall Conclusions

For Early Start/Early Intervention

The recent Legislative Analyst's Office report[111] recommended that the Early Start system be administered through a single agency. The authors of the report believe that with this change, services would be provided to families in a timelier manner, and that state funding allocations, now different for each of the three provider options (regional centers, school district programs for children with HOV, and school district "legacy" programs), would be simplified and would provide some families with more choice in service providers. The LAO Report recommends that DDS and the regional centers administer Early Start exclusively, with a transition period during which regional centers contract with school districts to provide services to HOV children.

There are persuasive arguments to be made for unifying the system, and even for DDS to take the lead role exclusively. The LAO report offered the reasons below for their recommendation:

- Regional centers already serve the majority of children, and transferring the smaller number of children in school district programs to regional center programs would be more efficient than doing the reverse;
- Since regional centers provide services less expensively, shifting Early Start there would provide state savings;
- Shifting Early Start to schools would limit parental choice and the option for third-party billing.[112]

We agree with the recommendation of the Legislative Analyst's office that the Early Start/early intervention system should be unified. All of the evidence accumulated in this chapter leads to that conclusion. But we disagree with the LAO's recommendation that DDS and the regional centers serve as the lead agency. We propose that the state consider designating

the Department of Education as the lead agency. The development of infants and toddlers with disabilities should not be sacrificed to the least expensive option when that option means that untrained interventionists (aside from service providers such as OTs and PTS and SLPs) will be providing the services. The Department of Education is more likely to increase the requirements for professional preparation, and parents have a preference for education-based programs.

Moving Early Start services to the Department of Education would increase the likelihood that infants and toddlers with hearing, vision, and orthopedic disabilities, who require intensive, disability-specific interventions (mobility and tactile learning for children who are blind, for example), will continue to be taught by qualified teachers, since qualified teachers will migrate to school districts where they are paid decently. More highly qualified teachers have been needed in California since IDEA was passed; teacher education programs for teachers of children who are deaf or visually impaired are often twice as long as programs for teaching other children with disabilities since there are so many specialized instructional techniques to master.

In 13 states and territories, the State Department of Education is the lead agency for Part C; it is a co-lead agency in three states. It is difficult to determine whether the lead agency makes a difference in child outcomes, since the federal government has only required reporting on outcomes since 2015, and conditions and populations vary across states.

Our recommendation is compatible with the 2015 report of the State Special Education Task Force, which recommended the unification of special education and general education in California. If Part C were to be administered by the Department of Education, all systems would be unified. We believe this would result in a more coherent and efficient system of services.

In addition, we recommend consideration of the following**:**

Improving and expanding early intervention services and evaluating and accelerating the Child Find program to serve a greater number of infants, toddlers, and their families, especially those from underrepresented groups.

Designing and implementing a coordinated state system of screening for young children, like the model from North Carolina, so that young children are referred to services earlier and more directly.

Holding early intervention providers to a higher educational standard. In order to "grandmother" current providers in, they should be given an opportunity to complete the Early Intervention Assistant program from community colleges, but there should also be a "lead teacher" who has obtained the Early Childhood Special Education teaching credential in each setting who is paid on a level equivalent to that of school district ECSE preschool teachers.

For Preschool

A statewide system of universal preschool would significantly broaden the options for preschool inclusion in California. But in our present reality, our primary recommendation is to consider **improving access to public preschools so that more inclusive programs can occur**.

Special education services can be provided to children with disabilities in inclusive schools. In inclusive settings, these children would also be able to look to children of their own age who are typically developing as models for language, behavior, and social interaction.

Inclusive preschools operate on many different models, but most productively when there is a qualified and well-prepared general educator co-teaching with a credentialed early childhood special educator who shares responsibility for all children. Another challenge for the implementation of inclusion in California is the lack of well-prepared general education preschool teachers. We recommend that California consider **providing professional development to regular preschool teachers** about the learning and behavioral characteristics of young children with disabilities, the accommodations and adaptations that benefit them, and classroom management and behavioral strategies such as positive behavior support that can prevent and decelerate noncompliant behaviors. We believe that more comprehensive and focused professional development for all preschool teachers on sensitivity to varying cultural norms, addressing unconscious bias, and strengthening instruction for children with disabilities and English learners would benefit the youngest and most vulnerable of California's children.

In summary, although it is expensive to identify and support young children with disabilities, a failure to do so is likely to cost the state much more.

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CHAPTER 3: PREPARATION AND TRAINING FOR PROFESSIONALS IN EARLY CHILDHOOD EDUCATION

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The skills of the people who educate and care for California's young children in day care or preschool significantly affect the quality of their experience and their developmental outcomes. This chapter describes the training requirements for professionals who work with children 0-5 years, research and expert opinion on effective training, recent systematic analyses and recommendations for California, and the implications of the recommendations for California policies related to the preparation of the early childhood (EC) workforce.

Current Training Requirements

Child Care Centers and Family Day Care Homes Licensed by the California Department of Social Services

There are no requirements for license-exempt providers, and licensed family child care providers are required to have only 15 hours of health and safety training. Title 22 regulations determine the requirements for staff in child care centers and family day care homes that are licensed by the California Department of Social Services, as shown in the table below.

Table 1. Title 22 Requirements for Caregiver Staff

License-Exempt Provider	None
Family Child Care Home Provider	15 hours health and safety training
Teacher	12 postsecondary semester units, including four specified courses in early childhood education from an accredited college, and 6 months of work experience in a licensed child care center or similar program
Director Responsible for the operation of the center, including compliance with regulations, and communications with the Department of Social Services.	a) High school graduation or GED and 15 semester units at an accredited college, including 12 specified child development course units *and* 3 units in administration or staff relations *and* 4 years of teaching experience in a licensed center or comparable group child care program, ***or*** b) AA degree with a major in child development *and* 3 units in administration or staff relations *and* 2 years of teaching experience in a licensed center or comparable group child care program, ***or*** c) A Child Development Site Supervisor Permit or a Child Development Program Director Permit issued by the California Commission on Teacher Credentialing

The Title 22 requirement of 12 units in early childhood education (ECE) and six months' work experience for a child care provider is on par with the requirements of other states.[1] Seven states require a Child Development Associates credential, but 31 states require only a high school diploma or GED (14) or less (17). The highest requirements are in Pennsylvania, which requires an associate's degree in early childhood education or a related field, and Rhode Island, which requires child care providers to have a bachelor's degree in early childhood education.

The requirements in California for directors of Title 22-funded programs are also on par with those of most other states, which typically have equal or in some cases more modest requirements.[2] Only three states require an associate's degree; one state (New Jersey) requires a BA, but the degree does not need to be related to early childhood education. Only the Department of Defense requires a BA in a related field.

What is unusual in California is that the training requirements for child care providers vary depending on the source of the funding. Families receiving vouchers have providers who meet only the very minimal Title 22 requirements described above, whereas families that access contracted slots receive care that meets the higher Title 5 requirements shown in the table below.

State Preschool and Child Care and Development Programs Under the Department of Education

Child Development Permits are required for teachers and administrators at child care and development programs that contract with the Department of Education and are licensed under Title 5. The Commission on Teacher Credentialing oversees the Child Development Permit Matrix, which currently consists of six permit levels. Only one level (Program Director) requires a bachelor's degree. For each permit level, the number of education units by type (ECE/Child Development or General Education) and the amount of experience required is specified. The current six-level permit structure is based upon a career ladder approach, with each level increasing in coursework preparation and authorization or responsibility. Most coursework is completed by candidates at community colleges, but some take their courses at four-year institutions. The table below summarizes the requirements for Child Development Permit holders under current Title 5 regulations.[3]

Table 2. Requirements for Staff in Title 5 Settings

Position	Authorizes the Child Development Permit (CDP) holder to:	Minimum Requirements	Experience Requirement
Assistant Teacher	Care for and assist in the development and instruction of children in a child care and development program under the supervision of a Child Development Permit (CDP) Associate Teacher, CDP Teacher, CDP Master Teacher, CDP Site Supervisor, or CDP Program Director.	6 units of college-level work in ECE	None
Associate Teacher	Provide service in the care, development, and instruction of children in a child care and development program, and supervise a CDP Assistant and an aide.	12 units of college-level work in ECE, including designated core courses	50 days of 3+ hours per day within 2 years
Teacher	Provide service in the care, development, and instruction of children in a child care and development program and supervise a CDP Associate Teacher, a CDP Assistant, and an aide.	24 units of college-level work in ECE, including designated core courses (Child, Family, and Community; Child Development; and Curriculum) and 16 general education units	175 days of 3+ hours per day within 4 years
Master Teacher	Provide service in the care, development, and instruction of children in a child care and development program, and supervise a CDP Teacher, CDP Associate Teacher, CDP Assistant, and an aide. The permit also authorizes the holder to serve as a coordinator of curriculum and staff development in a child care and development program.	Same as teacher, plus 2 units of adult supervision and 6 specialization units	350 days of 3+ hours per day within 4 years
Site Supervisor	Supervise a child care and development program operating at a single site; provide service in the care, development, and instruction of children in a child care and development program; serve as a coordinator of curriculum and staff development in a child care and development program.	AA (or 60 units) with 24 units of ECE/CD units (incl. core) + 6 units administration + 2 units adult supervision	350 days of 3+ hours per day within 4 years, including at least 100 days of supervising adults
Program Director	Supervise a child care and development program operated in a single site or multiple sites; provide service in the care, development, and instruction of children in a child care and development program; and serve as coordinator of curriculum and staff development in a child care and development program.	BA with 24 ECE/CD units + 6 units administration + 2 units adult supervision	Site supervisor status and one program year of site supervisor experience

California has relatively low preparation standards for state preschool. A lead preschool teacher in a California State Preschool under Title 5 is required to have 24 units of college-level work in ECE and 40 college-level units in total. A BA, however, is increasingly becoming the norm: the number of states that require a BA degree for some early learning settings rose from

27 in 2008 to 34 in 2014.[4] Head Start now requires that at least 50% of lead teachers have a bachelor's degree with specialized training in early childhood.[5]

Although California's multiple subject credential (required for teaching elementary school) covers preschool, few individuals who hold the credential teach in preschools because the pay is so much lower than in elementary schools, including transitional kindergarten (see Chapter 4). Thus, most teachers in California preschools have early childhood education permits, as described above, which involve much less rigorous preparation, typically in programs that are completely separate from teacher credentialing programs. In contrast, most other states offer licenses that cover both preschool and some early elementary grades (preschool (P)–grade 2, 2 states; P–3, 15 states; P–4, 3 states; P–5, 1 state; birth (B)–K, 9 states; B–2, 3 states; B–3, 15 states).[6] For example, Arizona requires all pre-kindergarten teachers in state-funded programs and all kindergarten teachers to have an early childhood education license or endorsement. Pennsylvania recently altered its teacher licensing system to ensure that teachers in the early grades have a pre-K–fourth grade license.

Requirements often vary within states. For example, New York requires an Early Childhood Education (Birth to Grade 2) Teacher Certification, requiring the completion of post-baccalaureate education, but only for teachers working in public school settings, in state preschool programs run or contracted by school districts, or in New York City pre-K programs. Nebraska requires a birth-through-age-eight certification only for teachers working in public pre-kindergarten to third-grade classrooms.[7]

The Program Director position is the only level in the California permit matrix that requires a BA. It is difficult to find data on early childhood administrators. One effort to scan information nationally found that 38% of early childhood center program directors have a bachelor's degree, but 33% had less than an AA degree.[8] As of 2016, Head Start requires directors of both Early Head Start and Head Start programs to have a BA, as well as experience in the supervision of staff, fiscal management, and administration.[9]

In a few districts in California (e.g., San Francisco Unified, Fresno Unified), some preschools are under the direction of the elementary school principal. Concerns have been raised about principals' lack of preparation to support effective teaching and learning for young children.[10] Most states define principals as K–12 school leaders, but a few states, including Arizona, Delaware, Illinois, and Virginia, have expanded the scope of school leader licensure to include pre-K. California does not require any training specific to early childhood education in its principal licensure requirements, but it is in good company. Only one state, Illinois, specifically includes early childhood content in its certification program.[11] Also, although not required, it is possible to earn an early childhood (birth-3rd) endorsement, which certifies that the school leader is a knowledgeable early childhood principal.[12]

Many states (e.g., Connecticut, Delaware, Maryland, Massachusetts, New Jersey, Pennsylvania, and Washington) have developed professional development programs on early childhood education for school administrators.[13] State offerings vary from a single day to four-day institutes and monthly meetings; they are sponsored by the state department of education, universities or various other associations and organizations. At least one district in California

implemented a professional development program for elementary school principals to develop their understanding of early childhood education (see Chapter 6). But it is not common in California for elementary school principals to receive training related to early childhood education.

Head Start and Title I Preschools

Since 2013, assistant teachers are required to have a Child Development Associate (CDA) credential or be enrolled in a program leading to a CDA or an AA or BA, and at least 50% of teachers nationwide must have a BA in ECE or a BA with relevant ECE coursework. Under the Every Student Succeeds Act of 2016, school districts using Title I funds for preschool must meet Head Start standards.[14]

As of November, 2016, the director of an *Early Head Start or Head Start program* must have a minimum of a BA and experience in supervising staff, fiscal management, and administration.[15] This requirement is substantially more than what California requires for site directors of California State Preschool programs (an AA degree).

Transitional Kindergarten

Teachers in Transitional Kindergarten (TK) are required to hold a California teaching credential. Although this credential allows teachers to teach in classrooms for preschoolers through adults, education prior to kindergarten is not included in the credentialing program standards. In 2014, a provision was added to the TK law that requires all teachers who are first assigned to a TK classroom after July 1, 2015 to meet *one* of the following requirements by August 1, 2020:

- At least 24 units in early childhood education or childhood development, or both;
- As determined by the local education agency employing the teacher, professional experience in a classroom setting with preschool-age children that is comparable to the 24 units of education described above;
- A Child Development Teacher Permit issued by the California Commission on Teacher Credentialing.[16]

There has been no further guidance to date that specifies the content areas of the 24-unit requirement (e.g., child development and learning, literacy, math); whether such units should be lower- or upper-division; or what, if any, field-based experiences with particular ages of children or in particular settings are required.

Most TK classrooms are in elementary schools and are overseen by the principal. The same concerns about principals not being trained to support teachers working with young children that apply to preschool also apply to TK.

Research and Expert Opinion on Effective Training

There is not a strong research foundation on which to base decisions about preparation for individuals who teach and care for young children, and the research base in not sufficiently

developed to identify the particular types of education and training that are most effective. There are, nevertheless, findings that can provide some guidance.

Most of the extant research addresses two different but related questions: 1) Which teacher qualities and competencies are associated with positive child outcomes? 2) What credentials and qualities of preparation programs are associated with: (a) desirable teacher qualities and competencies, or (b) positive child outcomes? Below is a brief summary of research related to these questions. Because the research base is thin, also included are summaries of consensus documents that reflect a combination of research findings and expert opinion.

Qualities and Competencies of Effective Teachers

In 2011, California Early Childhood Educator Competencies were created by the Child Development Division of the CDE, First 5 California, and the WestEd Center for Child and Family Studies staff, with input from many early childhood education stakeholder organizations and the public. The competencies were designed to align with the state's early learning standards and curriculum frameworks. The document is very detailed (232 pages), which may limit its use. It is more a compendium of stake holders' judgments than a document based on research. This chapter provides some relevant empirical evidence that would be important to consider if the current document is revised.

Research findings. Many studies have linked specific qualities of caregivers to both social and cognitive child outcomes. Sensitive and responsive caregiving has been associated with better developmental outcomes in most large-scale child care research projects, including the Bermuda Study,[17] the Chicago Study,[18] the Child Care and Family Study,[19] the Cost, Quality, and Outcomes Study,[20] and the NICHD Study of Early Child Care.[21] Studies have shown that children are more engaged and have better learning outcomes when their teachers establish a positive social-emotional climate that is caring and respectful—listening to children and showing concern for their well-being—than when they have teachers who create a negative social climate.[22] Other caregiver qualities associated with positive child outcomes include cognitive stimulation, complex language, and authoritative and nonintrusive, rather than authoritarian and intrusive, behavior.[23]

Most studies of preschool teachers do not isolate particular qualities, but rather use observation measures that include multiple dimensions of the environment and teacher behaviors. The two most commonly used measures are the Early Childhood Environmental Rating Scale-Revised Edition (ECERS-R)—which captures a range of features, from space and furnishings to personal care routines to interactions among staff, children, and parents[24]—and the Classroom Assessment Scoring System (CLASS), which includes items related to teacher sensitivity, classroom management, the social-emotional context, cognitive stimulation, and instructional quality. A few studies have found significant, although modest, associations between child outcomes and ECERS-R scores, especially related to teachers' language and social behaviors.[25] CLASS too has been found in a few studies to be modestly associated with student outcomes.[26]

There is no systematic evidence on which teacher competencies predict specifically dual language learners' developmental outcomes.[27] But in California, more than half of all children under age six are either first- or second-generation immigrants. Skill in supporting dual language learners should therefore be a key competency. The Alliance for a Better Community, an advocacy group in Los Angeles, has proposed a set of core competencies for teachers of young dual language learners that are based on some research and expert knowledge.[28] These include knowledge of second language acquisition and of the cultural influences on early literacy development and an appreciation for the value of bilingualism.

Consensus documents. In April 2015, the Institute of Medicine (IOM) and National Research Council (NRC) of the National Academies released a report titled *Transforming the Workforce for Children Birth through 8: A Unifying Foundation.*[29] The overarching question guiding the research for the work was: "How can the science of children's health, learning, and development inform how the workforce supports children from birth through age 8?" The report is being used to guide many state policy changes related to early childhood education.

The recommendations in the report are based on research and on professional standards[1] as well as on the core competencies for early care and education professionals that have been developed by some states. The report includes recommendations for 26 core competencies that should be required of care and education practitioners. The competencies are divided into five categories (core knowledge base, practices to help children learn, working with diverse populations of children, developing and using partnerships, and continuously improving the quality of practice). As an example, the recommendations related to practices for children ages 0-8 years are summarized below.[30]

Caregivers of children ages 0-8 should have the ability to:

- establish relationships and interactions with children that are nurturing and use positive language;
- create and manage effective learning environments (physical space, materials, activities, classroom management);
- consistently deploy productive routines, maintain a schedule, and make transitions brief and productive, all to increase predictability and learning opportunities and to maintain a sense of emotional calm in the learning environment;
- use a repertory of instructional and caregiving practices and strategies, including implementing validated curricula that engage children through nurturing, responsive interactions and facilitate learning and development in all domains in ways that are appropriate for their stage of development;
- set appropriate individualized goals and objectives to advance young children's development and learning;

[1] The professional standards consulted included the National Association for the Education of Young Children, the Early Childhood Generalist Standards of the National Board for Professional Teaching Standards, the Interstate Teaching Assessment and Support Consortium of the Council of Chief State School Officers, and the Recommended Practices in Early Intervention/Early Childhood Special Education of the Council for Exceptional Children.

- use learning trajectories, which requires a deep understanding of the content; knowledge of the way children think and learn about the content; and the ability to design and employ instructional tasks, curricula, and activities that effectively promote learning and development within and across domains and subject-matter areas;
- select, employ, and interpret a portfolio of both informal and formal assessment tools and strategies; to use the results to understand individual children's developmental progression and determine whether needs are being met; and to use this information to individualize, adapt, and improve instructional practices;
- integrate and leverage different kinds of technologies in curricula and instructional practice to promote children's learning;
- promote positive social development and self-regulation while mitigating challenging behaviors in ways that reflect an understanding of the multiple biological and environmental factors that affect behavior;
- recognize the effects of factors from outside the practice setting that affect children's learning and development (e.g., poverty, trauma, parental depression, experience of violence in the home or community), and to adjust practice to help children experiencing those effects.

These qualities, believed by national experts to be important for people who care for and teach young children, would be a good starting point for developing or revising performance standards for early childhood educators in California, as recommended by the California Comprehensive Early Learning Plan.[31] The question then becomes: What is known about effective strategies for developing these qualities in early education professionals?

Qualities of Effective Preparation

This chapter focuses on research and expert opinion about the qualities of effective ECE preparation programs. Currently California has no specific requirements for programs preparing students for the early childhood education workforce. All programs that serve students who plan to apply for a Child Development Permit offer the courses that are required for the permit (e.g., Principles and Foundations, Child Development; Child, Family & Community; Curriculum). Otherwise, four-year colleges and universities vary substantially in the courses they offer.

Courses offered in community colleges are more comparable than those in four-year programs, as the result of an initiative that created recommendations for a core set of courses. The California Community Colleges Curriculum Alignment Project (CAP) engaged faculty from across the state to develop an eight-course, 24-*unit,* lower-division program of study supporting early care and education teacher preparation. The eight courses (referred to as the CAP8) have been adopted by most California community college campuses.[32] Recently CAP added seven additional courses in the three specialization areas of infant/toddler, administration, and children with special needs, and additional courses for transitional kindergarten**.**

This effort has resulted in greater uniformity in course offerings across community college programs, and the CAP8 courses have been adopted as the major requirements for the Associate Degree for Transfer in ECE. There are, however, no state requirements or oversight of the content or quality of the courses. The research and consensus reports summarized below

could provide guidance for an initiative in California to develop a program accreditation system that parallels the accreditation system for programs that prepare students for the multiple subject and secondary credentials.

Research findings. Most of the extant research on preparation has focused on years of education, degrees attained, or field of study. Many studies have found associations between the amount of education child care providers have attained and the quality of their care, measured either by scores on global measures of quality, such as the ECERS or the CLASS, or by specific dimensions of observed care quality, such as supportive interactions with children and rich language environments.[33] Additionally, a few observational studies have found direct links between higher education attainment and gains in child development outcomes.[34] The value of higher education is also suggested by the observation that teachers in the early childhood programs that have demonstrated the most robust long-term effects of preschool on children, such as Chicago Child-Parent Center programs, Perry Preschool, the New Jersey Abbot districts, and the Oklahoma universal preschool program, are at the high end in educational qualifications. In all of these programs, the lead teachers had at least a bachelor's degree and specialized ECE training.[35]

In contrast to studies suggesting the value of more education, large-scale observational studies of center-based programs have failed to find consistent associations between the amount of education or credentials of the staff and classroom quality and child outcomes.[36] [37] [38] [39] While a meta-analysis that examined studies published between 1980 and 2005 found a positive effect of specialized training on the competency of caregivers in child care, the effect was not significant for a subset of studies that examined the link between caregiver training, caregiver competencies and child behavior in childcare.[40] One study found a few links between teachers' education and children's math skills across the pre-k year and between teachers' Child Development Associate credential and children's gains in basic skills. However, this study did not find that either education training or credentialing consistently predicted measures of classroom quality or other measures of children's academic skills. Another study used a within-program fixed effects model and a 13-year panel of administrative data on all Head Start programs in the US to show that programs that experienced increases in their teachers' education also had increases in child-teacher ratios, turnover and racial differences between children and staff.[41] Lack of formal ECE training and post-secondary education have also been linked to lower levels of classroom quality in some studies.[42] [43] The inconsistency in research findings is not surprising, given the huge variation in the nature of the degree programs represented. It is likely that the content and quality of preparation programs are more predictive of teachers' skills and child outcomes than are the number of courses or years of higher education completed. [44]

Although the BA is recommended by most experts and advocates for preschool teachers, the nature of the BA and students' experience are likely to be as important as the degree itself. Given the current structure of BA programs in California, requiring a BA alone would not necessarily increase the quality of the EC workforce. As discussed in more detail below, students enrolled in colleges offering bachelor's degrees generally receive less instruction focused on practice and fewer practice teaching opportunities than students

attending community colleges. People with BA degrees may, as a consequence, receive less training that specifically prepares them to work with children than do students who obtain an associate's degree. Very little research has examined the effects on teacher effectiveness of the quality or nature of training, such as its intensity, approach, or content. Until this kind of research evidence is available, expert opinion summarized in consensus documents can be used to inform decisions about the content of preparation programs.

Consensus documents. Less attention has been paid to the training of child care providers than to that of preschool teachers, and as described above, the training requirements in California for child care providers, as in most states, are minimal. A report by a child care advocacy organization, Child Care Aware of America, however, offers some direction for the preparation of child care personnel. It recommends training in child development, child guidance, child abuse identification and reporting, emergency preparation, licensing regulations, learning activities, health and safety, and safe sleep practices.[45]

The National Association for the Teaching of Young Children (NAEYC) has issued specific guidelines for the content of programs preparing early childhood education professionals for children birth through eight years. NAEYC awards accreditation to associate, baccalaureate, and master's degree programs that meet their standards for programs preparing early childhood educators. There are currently 191 institutions in 35 states with NAEYC-accredited programs.[46] Although only two preparation programs in California (De Anza and Santa Monica College) are accredited by NAEYC, the standards for training have been well vetted by experts and could be considered in an effort to create California standards. Their guidelines are summarized below.

To meet the NAEYC standards, preparation programs must demonstrate that they provide experiences for students to develop in the following ways:[47]

- Promoting child development and learning: be grounded in a child development knowledge base; be able to use their understanding of young children's characteristics and needs, and of multiple interacting influences on children's development and learning, to create environments that are healthy, respectful, supportive, and challenging for each child;
- Building family and community relationships: know about, understand, and value the importance and complex characteristics of children's families and communities; be able to use this understanding to create respectful, reciprocal relationships that support and empower families, and to involve all families in their children's development and learning;
- Observing, documenting, and assessing to support young children and families: know about and use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals;
- Using developmentally effective approaches to connect with children and families: understand that teaching and learning with young children is a complex enterprise, and its details vary depending on children's ages, characteristics, and the settings within which teaching and learning occur; understand and use positive relationships and supportive interactions as the foundation for their work with young children and families; know, understand, and use a wide array of developmentally appropriate approaches, instructional strategies, and tools to connect with children and families;

- Using content knowledge to build meaningful curriculum: know the essential concepts, inquiry tools, and structure of content areas, including academic subjects, and can identify resources to deepen their understanding; use their own knowledge and other resources to design, implement, and evaluate meaningful, challenging curriculum that promotes comprehensive developmental and learning outcomes;
- Growing as a professional: know and use ethical guidelines and other professional standards related to early childhood practice; be continuous, collaborative learners who demonstrate knowledgeable, reflective and critical perspectives on their work, making informed decisions that integrate knowledge from a variety of sources; informed advocates for sound educational practices and policies;
- Early childhood field experiences: Field experiences and clinical practice are planned and sequenced so that candidates develop the knowledge, skills, and professional dispositions necessary to promote the development and learning of young children across the entire developmental period of early childhood—in at least two of the three early childhood age groups (birth–age three, three through five, five through eight years) and in the variety of settings that offer early education.

Summary

The 12 or 24 college units required of early childhood practitioners in California for programs under Title 22 or Title 5, respectively, are not sufficient to prepare them with the skills suggested by research and experts in early childhood education, and the current requirements have few defenders. Research and consensus documents indicate several key areas of teacher qualities and preparation. We turn next to close examinations of California's requirements in light of the skills considered important for early childhood educators, as described above.

Recent Recommendations to Improve Training Requirements in California

Two major initiatives have recently been undertaken to recommend changes for training the California EC workforce. In the first case, the California legislature charged the Commission on Teacher Credentialing (CTC) with reviewing the Child Development Permit Matrix, described above. In the second case, a panel (referred to as TWB8) was charged with analyzing the implications for California of the National Research Council's *Transforming the Workforce for Children Birth Through 8* report. Both sets of recommendations are summarized below.

Child Development Permit Advisory Panel

The Child Development Permit matrix, which applies to programs under Title 5, was last updated in 1994. More than two decades later, in 2014, California Senate Bill 858 charged the Commission on Teacher Credentialing with reviewing the current requirements for licensure and recommending updates as appropriate. The review was conducted by The Child Development Permit Advisory Panel (CDP AP). The Panel, which included individuals from diverse sectors in the early childhood field, met seven times over two years and proposed the changes described below. The Panel recommendations involve modest changes to the current matrix because feedback from the field made it clear that given the current levels of funding

and shortages in the workforce, the more substantial improvements that the Panel members believed were needed would create too much stress in an already distressed field. Their recommendations, therefore, should be considered suggestions for the short term, as a step toward the more ambitious improvements that are needed.

Specifically, the Panel recommended eliminating two current permit levels (the Assistant Teacher and the Site Supervisor), strengthening the requirements for the various permit levels, eliminating the option for meeting the education requirements by obtaining a Child Development Associate Credential issued by the Council for Early Childhood Professional Recognition, and clarifying the requirements for permit renewal. The elimination of several options that currently allow individuals to qualify for the Site Supervisor and Program Director permits was proposed to ensure that individuals employed in these roles know how to supervise and support individuals at the other permit levels. The Panel also proposed building in an option for potentially transferable pathways between the Permit and the Multiple Subject credential. Currently, individuals who meet the requirements of the non-administrative levels of the Child Development Permit have not laid any groundwork to matriculate to Multiple Subject credential preparation, if they choose. Similarly, individuals who move through the administrative levels of the Child Development Permit are unable to apply much, if any, of their coursework and experience toward obtaining an Administrative Services Credential or matriculating into an administrative services preparation program.

The Panel also recommended a greater focus on clinical practice experience. There is widespread agreement that supervised field-based learning experiences for teachers working with children of all ages are critically important to developing teaching skills.[48] Currently in California, the courses designed to prepare people to work with young children focus more on foundational knowledge than on specific strategies for working with children. This is especially true in four-year institutes of higher education. Most four-year programs in California provide few supervised opportunities for students to develop skills in working directly with children, and two-year community colleges require supervised field experience with general parameters about teaching strategies. A strong supervised clinical experience requirement would address this need. It would also align the EC Permit better with the multiple subject credential.

Two additional recommendations extended beyond the permit matrix. First, to define eligibility for a Child Development Permit, the Panel recommended replacing the completion of college courses with performance standards. The competencies should be focused on what professionals need to know and be able to do to perform their jobs and should be aligned to the California Early Childhood Educator Competencies. Programs preparing teachers would have flexibility in creating opportunities for students to gain and demonstrate the competencies through courses and other experiences.

To accompany the performance standards, the Panel recommended developing preparation program standards, similar to those required of K-12 teacher preparation programs. As mentioned above, currently there is no mechanism for ensuring or monitoring quality for programs that prepare EC educators and administrators. In 2000, a pilot project attempted to use an accreditation system as a means of approving ECE preparation providers.

Approximately 12 providers, including community colleges, public and private institutes of higher education, and independent providers, such as Montessori, participated in the pilot. A draft set of program standards was developed, pilot participants submitted response documents related to the standards for review, and a team conducted site visits to each provider. While most participants found the process valuable, the Commission did not have the staff or the resources to bring all of these programs into the accreditation system and the pilot ended. The current "Verification of Completion" (VOC) process allows programs using the CAP8 courses to provide expedited processing of candidate applications for the Child Development Permit. However, the process is based on looking at coursework titles and does not monitor the content or the quality of the courses.

TWB8

Subsequent to the 2016 publication of the IOM and NRC *Transforming the Workforce* report, First 5 California and the California Department of Education, Early Education and Support Division, convened a small Action Planning Team for an intensive nine-month process to review the report and other information directly related to California's early childhood workforce. The Team identified key priorities for California and developed a plan for achieving them. The resulting plan is intended to serve as a roadmap for implementing a fully developed and articulated statewide system of certification, preparation, and support for California's early childhood professionals. The recommendations are summarized below.[49]

1. Permitting and Credentialing

   1.1 Adopt standards for the development and certification of ECE professionals that define essential knowledge and skills and articulate with the California Multiple Subject teaching credential and the California Quality Rating and Improvement System (as it relates to the Quality Continuum Framework).

   1.2 Develop and implement a robust and responsive statewide system of support and technical assistance (TA) for professional development providers that supports quality, including building capacity for coaching and mentoring.

   1.3 Implement standards-based preparation, and develop and implement standards-based performance assessments for use by ECE workforce preparation programs to formatively assess candidates' progress in developing competence.

2. Professional Pathways

   2.1 Collaboratively develop an early childhood career lattice that specifies competency-, degree-, and practice-based qualification requirements for professional roles at all levels working with children from birth through age eight, and outlines viable career advancement pathways.

   2.2 Identify opportunities and support solutions to help individuals overcome barriers to advancing along the career lattice.

2.3 Adopt and support the California ECE Workforce Registry as a single, shared system for reporting qualifications and training for professionals working with children from birth through age eight.

3. Higher Education and Ongoing Professional Learning

3.1 Engage stakeholders to identify and prioritize tasks to support:

- Degree-granting institutions' ability to provide courses and/or programs aligned to the Performance Expectations and Preparation Standards for ECE professionals
- Effective curriculum and articulation policies and practices to support ECE workforce and leadership program development (including master teachers, coaches, mentors, and trainers)
- Institutional infrastructure needs, including but not limited to program capacity, fiscal support practicum and field placement availability, advisement, full-time faculty ratio, and other support services.

3.2 Based on outcomes from Recommendation 3.1, address priorities related to:

- Program development in order to align with California Commission on Teacher Credentialing (CTC) professional Preparation Standards and other relevant early childhood-related professional preparation guidelines.
- Institutional infrastructure, including placement of students in lab school settings and other high-quality field placement sites.

3.3 Support faculty and administrators at accredited degree-granting institutions to develop and/or revise programs to better meet the preparation and professional development needs of ECE field-based supervising teachers, mentors, coaches, trainers, and other early childhood professionals.

Implications of Recommended Changes

Both of these comprehensive analyses concluded with recommendations to shift from granting early childhood permits based on college units to basing them on evidence of meeting performance standards that articulate with the multiple subject credential standards. The current California Early Childhood Educator Competencies[50] could serve as a point of departure for developing simpler and measurable performance standards for permits, although there are currently too many standards to be practical. A process for assessing individual candidates, similar to the California Teacher Performance Assessment (CalTPA) used for K-12 teacher candidates, would need to be developed and implemented. Since the CTC currently develops teacher performance expectations (TPEs) for all other credentials, which are then used to develop program standards, TPEs for early childhood teachers could be written based on both CA ECE Competencies and TW8 recommendations.

Both reports also suggest standards and accreditation for programs that prepare the EC workforce, along the lines of what California uses for K-12 preparation programs. Program standards for early childhood preparation programs currently do not exist in California. They would have to be developed, and an infrastructure and process would need to be created to implement them. The CTC is in the best position to oversee the development of program standards, as it has experience with K-12 and could ensure alignment between the EC and the K-12 standards. The process for EC would not necessarily need to be as elaborate or costly as what is used for the multiple subject and secondary credential programs. For example, rather than site visits, preparation programs could be asked to document on paper the experiences they provide to support students' achievement of the performance standards. But some accreditation review process would be needed.

Developing performance standards for individuals applying for the Child Development Permit and developing accreditation processes for programs preparing the EC workforce are major undertakings and would take some time to achieve. In the meantime, the CTC AP Panel has recommended more modest efforts to improve the preparation of early childhood professionals. Although the increased rigor they propose falls significantly short of what is recommended by experts, the proposed changes in requirements in the Permit Matrix would nevertheless increase the training demands on individuals who seek a permit. To avoid significant disruption to the field, individuals already holding permits would most likely need to be grandfathered in, and some number of years would need to be given to phase in the more rigorous requirements.

Implementing even these modest recommendations would be challenging. Preparation requirements cannot be considered independent of the issues of pay, compensation, and status in the area of early care and education. The field is already suffering from an inadequate workforce supply (see Chapter 4), and because of the shortage of qualified teachers, programs have had to put people who do not have the required permit in classrooms as lead teachers. The additional requirements recommended by the CTC Panel would exacerbate the problem if compensation is not increased to be commensurate with the new demands and expectations.

Increasing the training requirement could also reduce diversity. The EC workforce includes a substantial number of linguistic and ethnic minorities, and is more diverse than the K-12 workforce.[51] Typically, people employed in early childhood settings are non-traditional students. Many are recent high school graduates and among the first in their families to attend college. They have too few resources to forgo the income full-time work provides. Supervised field experiences are especially challenging for students who are working full time because they need to occur during the work day. To minimize the strain on an already inadequate workforce and minimize the loss of diversity, increased training or performance standards would require efforts and resources to ensure access to preparation programs for diverse individuals and those who are financially strapped.

Increasing even modestly the requirements, and indeed making any effort to improve the training of EC professionals, also has important implications for the way preparation programs are organized and staffed. The next chapter describes the current situation for

programs preparing EC professionals and discusses the kind of changes that would be required to implement the recommendations.

EC Preparation Programs

In the 2013-14 school year, 145 institutions of higher education offered early childhood degree programs, including 103 community colleges offering 190 associate's degree programs and 42 public and private colleges and universities offering 50 bachelor's degree programs, 29 master's degree programs, and one doctoral program.[52] Note, however, that no early childhood degree program exists at any level in 17 counties, primarily in the far north and eastern areas of the state, making access to preparation programs challenging in large regions of California.

As of 2010, the programs offering courses that met EC permit requirements in California State Universities were represented by at least 12 different names (e.g., Early Childhood Studies, Family and Consumer Sciences, Child Development, Family Studies) and found in 11 different departments or schools (Agricultural Sciences and Technology; Arts and Sciences; Behavioral & Social Sciences; Education; Health & Human Development; Health & Human Services; Letters, Arts, and Social Science; Liberal Arts; Professional Studies; Social & Behavioral Science).[53] Only five of the 19 degree programs were located in schools or departments of education.

Preparation for teachers of 3-4-year-olds in California is disconnected from preparation programs for teachers of children five years and older. The programs are also very different. Multiple credential preparation is offered at post-BA graduate schools and is much more focused on practice, especially related to academic skill development. For example, students are required to take courses on the methods of teaching specific academic disciplines. Programs preparing EC professionals cover more topics—typically including social development and self-regulation, motor development, health and nutrition, and working with families and the community—that receive minimal attention in programs preparing students for the multiple subject credential. Cognitive development is covered in preschool teacher preparation programs, but there is very little instruction related to the teaching of specific disciplines (e.g., math, literacy, science).

Goals and offerings. In 2015, a study of the status of early childhood higher education offerings in California mapped the higher education programs in the state and conducted online program surveys of degree/credential program leaders (e.g., deans or coordinators) and faculty.[54] The authors found that the degree programs had differing goals for preparing students, with only one-half or fewer identifying teacher and/or administrator preparation as their primary goal.

The study revealed a stronger emphasis on training practitioners in community colleges than in bachelor's programs. Preparing teachers and administrators was identified as the primary goal of only slightly more than one-quarter (29%) of bachelor's degree programs. Only seven (Fresno, Fullerton, Humbolt, Long Beach, Sacramento, San Bernardino, and San Francisco) of the 19 programs were practitioner-focused and directly aligned with the Child Development permit requirements. The bachelor's degree programs were also less likely than

the associate's degree programs to require coursework on teaching (e.g., classroom management, science, children with special needs). Faculty were asked to indicate whether the primary focus of their teaching in the degree program was "child development and learning," "curriculum and teaching methods," or "both equally." Associate's degree faculty members were more likely (71%) to report focusing on "curriculum and teaching methods" (either exclusively, or equally with child development and learning) than were bachelor's (44%) or master's (55%) degree faculty members.

The study exposed particular weaknesses in requirements and opportunities for students preparing to work with infants and toddlers. When teaching topics were required, degree programs across all types consistently reported that these were focused on preschool-age children. Associate's degree programs more consistently reported focusing on infants and toddlers than did bachelor's and master's degree programs, and associate's degree faculty members (72%) were more likely to report that their teaching expertise included infants and toddlers than were bachelor's (58%) or master's (62%) degree faculty members.

Course content was also not consistently offered to prepare practitioners for early childhood supervisory, administrative, or other leadership roles. Only four of the 13 topics examined in the survey (assessment and documentation to inform program planning; building relationships with other teachers and/or early childhood professionals; guiding practitioners in implementing curriculum and appropriate teaching strategies; and effective advocacy, policy analysis and development) were offered by three-quarters or more of all programs, across degree levels. Generally, associate's degree programs were more likely than bachelor's or master's degree programs to offer administration and leadership topics, with the exception of topics related to research and advocacy.

Faculty. Many preparation programs offering both associate's and bachelor's degrees do not have the personnel or resources they need to support more rigorous training, and few have the capacity to offer supervised clinical training.

California's early childhood degree programs rely heavily on part-time faculty, much more than other departments in the same institutions. Among the approximately 2,000 faculty members comprising the early childhood teacher education workforce in California, 77% of associate's degree faculty, 70% of bachelor's degree faculty, and 61% of master's degree faculty were employed part-time. California's early childhood preparation program faculty workforce is not nearly as diverse as the students, although there has been some increase in racial and ethnic diversity over the last decade.

Many programs, especially bachelor's programs, lack the faculty to teach courses related to subject-matter teaching. For example, the 2015 study of the status of early childhood higher education offerings in California, mentioned above, asked specific questions about preparing the workforce to teach math.[55] Many faculty members did not consider themselves prepared to teach early math content. When asked about course offerings, all 13 early math topics mentioned were required by at least three-quarters of associate's degree programs, whereas only four of the topics were required by three-quarters or more of bachelor's degree

programs. Most faculty members report having had academic preparation specific to early childhood and having worked in an array of ECE professional roles, but they have not had recent experience with teaching children, particularly infants and toddlers.

Supervised clinical experience. As described above, supervised field experiences are considered critically important for preparing practitioners. The California TWB8 committee proposes developing an institutional infrastructure that includes placement of students in laboratory school settings and other high-quality field placement sites. The NAEYC Program Standards specifically recommend field experiences and clinical practice that are planned and sequenced to promote knowledge, skills, and professional dispositions in candidates. The *Transforming the Workplace* Institute of Medicine report concludes that field placements are one of the most important elements of educator preparation, and suggests that the ideal practicum experience be completed alongside formal coursework to allow candidates to learn how to apply what they are learning in courses to practice. NCATE's Blue Ribbon Panel recommends turning teacher education on its head, with clinical practice (which can involve tutoring individual children, working with small groups of children, and student teaching) to become the core of teacher preparation, rather than treating academic courses as the core with practical experience added on at the end.[56] It recommends that content and pedagogy be woven around clinical experiences throughout preparation in coursework, laboratory-based experiences, and field-embedded practice, as they are in preparing medical practitioners.

Falling far short of these recommendations, California requires no supervised clinical teaching experience for a permit to teach at the preschool level. Although experience is required, the requirement is typically met by being a regular employee in a child development setting of unknown quality without observations or reflections designed to develop skills.

Students earning a multiple subject credential are required to complete a student teaching experience, and typically participate in additional practica. But the 2015 study of the status of early childhood higher education offerings found that these experiences were almost exclusively focused on children in kindergarten and higher grades. Student teaching in a transitional kindergarten setting was required by only one multiple subject credential program, was an option in only one-third of the programs (32%), and was unavailable in 44% of the programs. Practica, like student teaching, offered limited experiences focused on transitional kindergarten.

Opportunities for supervised field-based experiences with preschool-age children were even more limited, with the great majority of programs offering no student teaching or practica in preschool settings. Only 39% of associate's degree programs and 32% of bachelor's degree programs offered student teaching. The majority of students completing an early childhood degree participated only in practica, and there was little consistency in the duration and frequency of the experiences. In comparison, 93% of people in bachelor's programs preparing to be EC teachers in Nebraska and 100% in New Jersey do student teaching.[57] In general, across the US, bachelor's and master's degree programs that are linked to state teacher certification standards are more likely to require students to complete a student teaching experience than are associate's degree programs or upper-level programs not linked to certification.[58]

Supervised practice teaching may be the most important component of preparing the EC workforce, and it may be the most difficult to create. Implementing practice teaching would require funding and an infrastructure, including reopening lab schools that previously served as training sites for community colleges. Ensuring high-quality placements and connections to academic instruction would require sustained relationships between higher education institutions and practice placement sites. Additional funds would be needed to compensate teachers who oversee student teachers for the extra time required, and the supervising teachers would need to be given time at their sites to provide supervision.

As mentioned above, another impediment that would need to be addressed is the fact that a large proportion of students taking courses in early childhood education are working full time, typically not with a master teacher or mentor who has the training to serve as a supervisor. The California Early Childhood Mentor Program (CEMP) is a small beginning step toward providing support for teacher candidates in their practica, requiring rigorous scrutiny in mentor teacher selection and ongoing guided group supports. Training and compensation, however, are minimal and mentor teachers are often given little time away from their own classroom responsibilities to provide ongoing support.[59]

Summary. There is a strong consensus that EC preparation programs need to shift toward a greater emphasis on practice, with clinical experiences provided by qualified teachers as a key component.[60] This shift is advisable regardless of whether California adopts performance standards for early childhood educators, and it would require major changes in both BA and AA programs.

Administrators in four-year programs typically do not see preparing practitioners as the goal of the program. They do not require coursework focused on teaching young children; most faculty report that they do not focus on curriculum and teaching methods in their courses; and most programs have few offerings related to infants and toddlers or early childhood program administration.

Although community college programs emphasize practice more than four-year colleges do, they are constrained in their ability to prepare practitioners. Under the Student Transfer Achievement Reform Act (SB 1440), passed in 2010 to ease transfer from two-year to CSU colleges, 36 of the 60 units required for an associate's degree must be in general education, leaving only 24 for specialization. This is why the ECE teacher permit currently requires only 24 units that are directly related to early childhood education. Moreover, the 24 specialization units taken at the community college level are considered by CSUs to be lower-division courses, and thus are expected to be foundational rather than practice-oriented. As a result, the eight courses typically taught do not emphasize the pedagogical skills that are a core part of K-12 teacher preparation programs. Ironically, a policy created to facilitate the achievement of a BA undermines attention to the practical skills that students with associate's degrees need to be effective teachers of young children.

While challenging, none of the problems related to preparation programs are insurmountable. There are also many organizations in California that could serve as productive partners in efforts to align and improve preparation programs, including the California

Community College Early Childhood Educators (CCCECE),[61] the Center for the Study of Child Care Employment (CSCCE),[62] and Partnerships for Education, Articulation and Coordination through higher Education (PEACH).[2] Moreover, many other states have implemented programs to prepare professionals for the EC workforce that come much closer to meeting the standards suggested by research and the consensus of experts.

Summary and Conclusions

The demands and expectations of early childhood educators are greater now than they have ever been. We know now how much brain development occurs in the first five years of life, and the ways in which children's environments affect the very foundation of future learning and development. We have ample evidence of the long-term benefits of high-quality education programs for young children. And as the kindergarten standards and curriculum have become more rigorous, the pressure on preschool teachers to prepare children has increased. While other countries and other states are accordingly increasing the preparation requirements of early childhood educators, California is falling further and further behind.

California also has anomalies in its training requirements that make no sense. Consider, for example, the significant and unjustifiable differences in the preparation requirements for educators of four-year olds enrolled in publicly supported early childhood programs in California. The teachers of four-year-olds enrolled in TK have a BA and a teaching credential, and in the near future, they will have additional training in early childhood education. Children enrolled in Head Start are likely to have a teacher with a BA that is related to early childhood education. Teachers of four-year-olds in programs that contract with the Department of Education need only 24 college units related to early childhood education, while four-year-olds enrolled in programs licensed by the California Department of Social Services have teachers with even weaker requirements. Training requirements for the people responsible for preparing children for kindergarten in California thus range from 12 units to five years of college.

Although a bachelor's degree requirement for preschool teachers is increasingly becoming the norm in the US, requiring a BA in California without making many other policy changes would not necessarily improve the quality of education children receive, and it would definitely exacerbate the current shortage of qualified teachers. For increased requirements to avoid a significant reduction in candidates for a profession that is already suffering from shortages, a substantial increase in pay for early childhood educators would be required to compensate for the additional cost and time necessary to earn a college degree. Resources to make college affordable for nontraditional (mostly first-generation and working full time) college students would also be needed.

[2] These representatives include 14 community colleges, 6 California State University (CSU) campuses, 3 private universities (University of La Verne, Pacific Oaks College and Pepperdine University), as well as UCLA's Applied Developmental Psychology Minor (with its Megan E. Daly Infant Development Program [IDP] laboratory) and the UCLA Extension Early Childhood Education Program.

To ensure that the additional education requirement improves children's educational experience, an investment would also need to be made in higher education programs. They would need to build capacity to provide early childhood educators with the kind of education that prepares them to be effective practitioners. Effective programs would need to be better aligned to the current multiple credential programs, stressing teaching methods, not just child development, and offering significant supervised field experiences. One strategy for making such changes is to add substantial content about children under five years to the multiple credential so it can adequately include preschool. Another is to create an early childhood teaching credential for preschool through grade 2 or 3, similar to what currently exists in many states. Clear state-level program standards and performance expectations for teachers would be useful in guiding efforts to develop the capacity of higher education to prepare effective preschool teachers.

Although four-year colleges and universities may eventually become the primary sites for preparing individuals to serve as early childhood educators, California has a valuable asset in its community colleges. They are generally more focused on preparing practitioners than BA programs, and should continue to play a role in any effort to improve preparation. One option is to allow community colleges to offer BAs in early childhood education, as is allowed in eight states. Currently 17 community colleges in five states offer a bachelor's degree in early childhood education.[63]

As elementary school principals become increasingly responsible for early childhood education programs, their preparation requirements need to include knowledge and experience related to young children.

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CHAPTER 4: STRENGTHENING CALIFORNIA'S EARLY CHILDHOOD EDUCATION WORKFORCE

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The quality of a state's early childhood education (ECE) system is an extension of the condition of its workforce. After providing an overview of California's ECE workforce, this chapter identifies best practices for ensuring a strong ECE workforce, discusses how California fares in each best practice, and proposes the best way forward regarding the policy options or state-level data needed to support change in California. The chapter concludes with a summary of the essential reforms needed to transform California's ECE workforce.

Background on the State of California's Early Childhood Education Workforce

California was once a leader in ECE and served as a model for other states. It boasted a statewide program of children's centers that were expected to develop critical foundations for learning and positive development as well as meet the needs of working parents. Teachers in these centers had the education, training, and support to do their jobs well.[1] State policymakers deemed these centers a priority.[2]

Today, however, California no longer boasts that high-quality system. In the past four decades, the state has shifted resources to expand access to services over sustaining quality or seeking a better balance between access and quality.[3] Moreover, years of inadequate funding and diminishing staff qualifications have eroded the quality of jobs. The state, for example, no longer issues the standard early childhood credential. The credential was phased out in the mid-1970s as a result of the passage of the Ryan Act, a revamping of the credential system that eliminated various options not considered flexible enough for teacher mobility. Following the elimination of the credential, California saw a steady decline in the share of educators with bachelor's degrees in ECE programs.[4] Combined, these circumstances have contributed to the weakening of California's ECE system and workforce.

The dire state of California's ECE workforce reflects the challenges parents and families endure in attempting to access affordable, high-quality care. Currently, parents primarily bear the costs of ECE services, rendering the wages of early educators dependent upon what parents can afford to pay. In California, ECE for one child can take up 20% of the budget of parents living below the poverty line.[5] While the cost of ECE places it out of reach for many families, these revenues are insufficient to support living wages for early educators. It is estimated that about 65% of program costs are attributed to personnel, but these costs must be divided among multiple teachers, an administrator, and any other necessary personnel. Such costs leave few remaining dollars for any benefits such as health care. The public investment needed to alleviate the burden on parents and families and support a well prepared and compensated workforce is substantial. A 2018 National Academies of Sciences, Engineering, and Medicine taskforce that called for a new financing structure to ensure equitable access to high-quality

early education for all children placed the cost estimate for such a national system at $140 billion.[6]

Science demonstrates that learning begins at birth, that the long-term benefits of this early foundation are enormous, and that the interactions young children have with adults build crucial foundations for learning and healthy development.[7] We now know that low and uneven quality in group ECE settings can contribute to persistent achievement gaps among children from low- and higher-income families. Children, especially those from low-income and minority families, bear the costs of this underinvestment, which contributes to the forces that reinforce social inequities. High-quality ECE experiences well before kindergarten play a critical role in reducing these gaps.[8] For example, children who attend high-quality preschools have less grade repetition, higher graduation rates, and higher test scores.[9] Yet a study of preschool programs in California found that most programs did not meet quality indicators linked to long-term school success.[10] This study was conducted nearly a decade ago, but the conditions needed to change these circumstances have remained largely unaddressed, and in many areas have actually declined due to cuts made during the Great Recession, which have only recently begun to be reversed.

In California today, more than 200,000 people are paid to care for and educate the state's youngest children, but, as we show below, this workforce is neither sufficiently prepared nor compensated for the complex work they do, and they have little opportunity to improve their practice. These conditions do not align with what the latest science shows is best for young children's development, nor do they align with the policies of a state determined to alleviate social inequities. Investments are needed to raise qualifications, boost wages, attract and retain skilled educators, and make the early education system more stable and effective. California's historical leadership in ECE and the previous existence of a state early childhood credential represent a historical recognition that a trained, well-supported ECE workforce provides critical value to the state.

California's Early Childhood Workforce

California has long suffered from a lack of data regarding its ECE workforce, which makes it difficult to assess its status and performance relative to markers of success. The authors of this chapter made every effort to identify and highlight the scant California state-level data that exists. When such data were absent, we relied on California city- or county-level data, and sometimes on national-level data. An investment in collecting California workforce data, integrated with broader ECE data, is needed because these data are crucial for informing improvement of the state's ECE system.[11]

Data Sources

Because of the lack of comprehensive data on California's ECE workforce, this snapshot of the workforce relies on two separate data sources. The most current data reported below on the size and earnings of the workforce come from the US Bureau of Labor Statistics Occupational Employment Statistics (OES). The OES defines the following occupations: "child

care workers," "preschool teachers, excluding special education," "preschool teachers, special education," and "education administrators: preschool/child care center programs." These data do not include the self-employed, although home-based child care assistants, who are employees, are likely included in the "child care worker" category. Due to the limited data available through the OES, it is difficult to provide a more nuanced picture of this workforce.

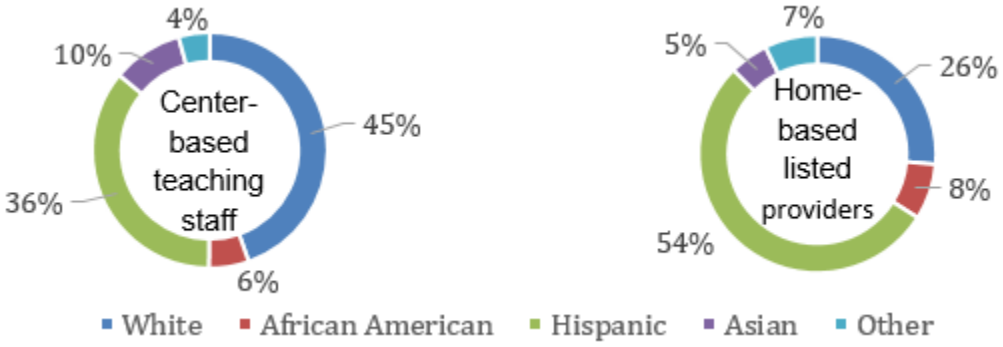
In order to provide some additional details on the characteristics of this workforce, we relied on the National Survey of Early Care and Education (NSECE) 2012. The NSECE employs different categories. Those who are paid to work with children are identified as working in center-based programs, as home-based listed providers, or as home-based unlisted providers. The "listed" providers are defined as individuals appearing on state or national lists of ECE services, such as licensed, regulated, license-exempt, or registered home-based providers. The home-based definitions used by NSECE do not allow us to ascertain definitively which providers are licensed family child care providers and which are licensed-exempt family, friend, or neighbor providers. However, in mapping the way the question was formulated with California's regulatory requirements and additional NSECE data about the number of children and the relationship to those cared for, we infer that most of the home-based listed providers in California are licensed family child care, and most home-based unlisted are individual family, friend, and neighbor (FFN) providers. Furthermore, because of restrictions on reporting the NSECE data, we focused our analysis primarily on center-based and home-based listed providers. Lastly, it should be noted that the OES and NSECE are *not* comparable datasets and the data were collected in different years. Nonetheless, the two sources can offer some insight into this workforce.

Workforce Snapshot

The NSECE identified approximately 205,000 members of California's paid ECE workforce, though based on their categorization, as noted above, it is likely that nearly half of this workforce (49%), identified as home-based unlisted, are individual FFN providers. NSECE further identified 94,200 individuals who worked as teaching staff in center-based programs (46%), while the remaining 9,710 (5%) worked as home-based listed providers. The OES, which offers the most current count, identified nearly 120,000 paid members of the ECE workforce, and likely excludes those who are FFN as well as self-employed licensed family child care owners/providers. Relying on NSECE and OES, counts of those likely to work in group settings indicate that the size of this workforce is between 103,000 and 120,000 paid members, though this may still be an underestimation, given the challenges in both data sources of identifying the home-based workforce.[12]

With regard to characteristics of the workforce, according to the NSECE, the majority of early educators were women, with nearly all center-based staff identifying as women (96.5%).[13] The ethnic diversity of this workforce varies by setting, with home-based providers reflecting the greatest diversity; while slightly more than one-third of center-based teachers were Hispanic (36%), more than half (54%) of home-based listed providers were Hispanic (see Figure 1).

Figure 1. Race/Ethnicity of California's Workforce



Because of the limitations of the current data sources, it is not possible to provide a more robust portrait of the workforce or discern differences across regions of the state.

Toward an Effective Early Childhood Education Workforce

In a seminal 2015 report, *Transforming the Workforce for Children Birth Through Eight,* the National Academies of Sciences recognized the importance of the ECE workforce to the nation and its families. It called for four reforms. To do their job effectively, early educators require (1) appropriate earnings and economic status, (2) appropriate education and training, (3) clearly delineated career pathways, and (4) supportive working conditions. These requirements are valid regardless of whether the ECE educator works in a center or school-based setting or in a licensed family child care, and whether the children receiving the care and education are infants, toddlers, or preschool-age.

Although these areas are presented separately, the authors caution against treating them as independent of one another. The areas are intricately linked, and changes made in one area undoubtedly impact the others. Comprehensive reform is needed to make meaningful and sustained advancements in any of the four areas and transform California's ECE workforce, and thus improve early care and education experiences for children.

Earnings and Economic Status

Earnings. Large segments of the ECE workforce, including workers with college degrees, are earning unlivable wages. The most current wage data available from the OES, as well as the patterns of low wages revealed in the NSECE data, attest to the persistently low wages of early educators and to disparities within the field and in comparison to other occupations.

The OES data reveal that although the current median wage for those identified as child care workers ($12.29 an hour) and preschool teachers ($16.19 an hour) in California experienced a small uptick between 2015 and 2017, wages continue to lag behind wages in other occupations (see Figure 2). During this same period, ECE center-based directors experienced a decrease of 6%. Across all three categories of ECE staff, wages were substantially lower than those of kindergarten and elementary school teachers.[14]

Figure 2. Earnings by Occupation in California[15]

Occupation	Median wage
Child care worker	$12.29
Preschool teacher	$16.19
Center director	$23.91
Kindergarten teacher	$38.33
Elementary teacher	$45.17
All workers	$19.70

Earnings by Occupation

- In 2017 the median wage for child care workers was $12.29, **a 3% increase since 2015.**
- For preschool teachers the median wage was $16.19, **a 3% increase since 2015.**
- For preschool or child care center directors, the median wage was $23.91, **a 6% decrease since 2015.**

When wages are adjusted to account for the cost of living, California ranks among the lowest paid states for those working in early education. The adjusted median child care worker wage drops to $9.58 per hour; it becomes $12.62 per hour for preschool teachers and $18.64 per hour for center directors. As a result of their low wages, 58% of child care workers in California use at least one public income support. This figure is more than double the national participation rate of 21% for workers across occupations.[16]

Disparities in earnings. The low wages that plague this workforce as whole can further obfuscate disparities in wages. In particular, early educators experience a pay penalty for working with infants and toddlers. As documented in a recent report released by authors of this chapter, among center-based teaching staff, at every level of educational attainment, those working with infants and toddlers earn less than their peers who work exclusively with preschool-age children. For those with a bachelor's degree, this can amount to more than $4 per hour, or $8,382 per year (see Table 1).

Table 1. Mean Hourly Wage & Predicted Wage Penalty by Age of Children & Educational Attainment, National (2012)[17]

	Infant/Toddler	Pre-K	Predicted Wage Penalty by Age
Bachelor's or Graduate Degree	$13.83	$17.86	-$4.03 per hour
Associate Degree	$11.85	$13.11	-$1.26 per hour
No College Degree	$9.68	$10.73	-$1.05 per hour

The currently available data do not allow us to identify these patterns within California; however, the NSECE data reveal that 58% of center-based teachers working with infants and toddlers in California earned less than $15 per hour;[18] when adjusted for inflation and cost of living, this equates to just $13 per hour.[19]

Most ECE programs are private and funded solely by parent fees. Other programs are publicly funded with a combination of state, local, and federal dollars, along with parent fees.[20] Part of the compensation challenge is that wages are determined more by the program funding source and the ages of the children taught than by the demands of the job (see Table 2). For example, a program funded with federal dollars, such as Head Start, or based within a school system might pay more than a program that relies on parents, even when the teachers have similar job demands.

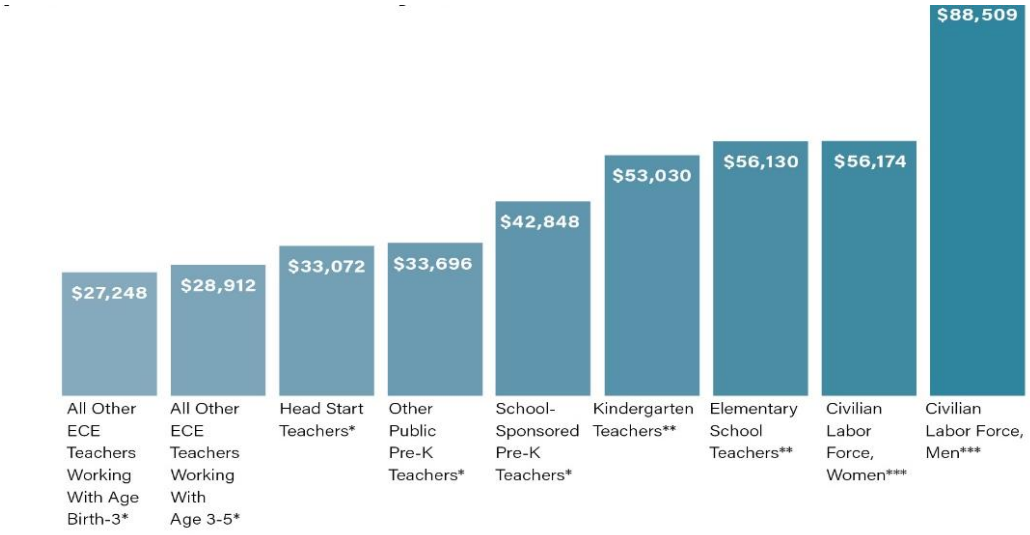
Table 2. National Mean Hourly Wages by Program Funding/Sponsorship & Educational Attainment, 2012[21]

	School-Sponsored	Head Start	Community-Based Public Pre-K	Other ECE
All Education Levels, % of ECE Workforce	6%	14%	21%	59%
Bachelor's or Graduate Degree	$21.93	$16.31	$17.50	$15.59
Associate Degree	$13.79	$14.70	$10.61	$12.21
No College Degree	$13.61	$10.83	$10.01	$9.91

Source: CSCCE calculation using NSECE (2012) data.

Education and earnings. Although early educators may experience a bump in earnings with higher levels of education, the increase is minimal, and educational attainment has not translated into livable wages. Attaining higher levels of education is often assumed to lead to adequate increases in pay. But early education has the unfortunate distinction of having the lowest projected lifetime earnings of any college major, with minimal financial return for those who earn a bachelor's degree (see Figure 3).

Figure 3. Mean Annual Salary of Teachers With at Least a Bachelor's Degree by Occupation & for All Workers by Gender, National (2012)[22]



* *National Survey of Early Care and Education Project Team. (2013). Number and characteristics of early care and education (ECE) teachers and caregivers: Initial findings, National Survey of Early Care and Education (NSECE). OPRE Report # 2013-38. Washington, DC: Office of Planning, Research and Evaluation. Administration for Children and Families. U.S. Department of Health and Human Services. Tables 12 and 19. Retrieved from www.acf.hhs.gov/sites/default/files/opre/nsece_wf_brief_102913_0.pdf. Annual wages calculated by multiplying the hourly mean wage by a year-round, full-time hours figure of 2,080 hours.*

** *Occupational Employment Statistics Survey, Bureau of Labor Statistics, Department of Labor: http://bls.gov/news.release/ocwage.htm.*

*** *Current Population Survey (CPS), United States Census Bureau. Civilian labor force information was only for males and females over 25 years old.*

Note: Teachers in school settings typically work a 10-month year.

It should be noted that despite some pay gains in publicly funded programs, a pre-K teacher in a public school could still be paid 40% less than a kindergarten teacher, even when the demands and education and training requirements of these occupations are similar. In 23 states that required a minimum of a bachelor's degree for public pre-K teachers, only four states provided salary parity between pre-K and elementary school teachers.[23] A recent survey of Alameda County, California early education administrators found that fewer than half reported that teaching staff would receive a pay raise for completing a degree. When a raise is granted, teachers can expect that it will be relatively small because an early education degree is the lowest-paying college major.[24]

Turnover. Although the relationship between teacher turnover and child outcomes is complex, research has demonstrated that ECE workforce turnover rates, program quality, and child outcomes are closely tied. Inadequate compensation is often cited as a reason for high turnover among the workforce.[25] High turnover rates have been linked to poor program quality and poor social-emotional, cognitive, and language development in children.[26] Teacher turnover has a detrimental impact on the ability of young children to succeed as they progress through school because they learn primarily through interactions with the trusted adults in their lives with whom they feel secure.[27] Research finds that the relationship with teachers is one of the most important determinants of school success for children of this age group, and

that young children's attachments to their adult caregivers help them learn and develop on a healthy trajectory.[28]

These challenges make it difficult not only to retain ECE staff, but also to recruit qualified teachers into the field. Young children in California may be experiencing multiple disruptions to their relationships with early educators. In California, the average annual turnover rate has been calculated to be 22% for teachers and 26% for assistant teachers at child care centers.[29] These turnover rates exceed those of California public school K-12 teachers, who have an average annual turnover rate of 17%. In Los Angeles County, 30% of teaching staff each year between 2012 and 2014 stopped working in ECE classrooms.[30] The same study found that the main reason staff left was to find higher-paying jobs that were more stable. A 2017 survey of the ECE workforce in San Mateo County found that 55% of teachers had resigned the previous year because of the county's high cost of living, and that 31% of teachers had moved out of the area.[31]

A 2017 study of San Mateo County's ECE workforce revealed a relationship between appropriate compensation and a stable workforce.[32] Site directors/supervisors were the best compensated workers, and they were also the most stable part of the workforce. At the time of the study, there was a 2% vacancy rate for their positions, compared to 11% for teachers, 10% for assistant teachers, and 9% for teacher aides.

Anecdotal evidence further suggests that pay differentials may also be creating turnover within the occupations as early educators with college degrees opt for better paying jobs (e.g., moving from state preschool to Head Start to Transitional Kindergarten, or from teaching infants and toddlers to older children).[33] From surveys of teachers in other states, we know that many are leaving or intend to leave because of low compensation and inadequate support.[34] In addition to the detrimental effects directly on young children, teacher turnover is also destabilizing to the field, making it harder for programs to make and sustain improvements.[35]

Best way forward. State leaders can look to the examples noted below for ideas, strategies, and lessons learned about supporting higher compensation of the workforce, but it is imperative to recognize that the amount of resources available for the workforce is central to a quality ECE system for California.

New Jersey has made the most progress in wage parity due in large part to parity standards in state statutes and the provision of resources to ensure implementation.[36] New Jersey's regulation states that district boards of education are responsible for ensuring that compensation for certified teachers and teacher assistants in contracting private provider or local Head Start settings be "comparable" to that of other district teachers and teacher assistants with equivalent certification and credentials.[37] As a result, New Jersey is one of only three states—along with Alabama and Georgia—that meet the requirements for salary parity status for all teachers in publicly funded pre-K, across settings.

The US Department of Defense (DOD) early education program serves as a model for improving ECE workforce compensation and turnover. The program invests in the early

childhood workforce by paying teachers the same as other DOD employees with similar training, education, seniority, and experience. During the first 25 years that this policy has been in place, the base pay of new hires in military child development centers has increased by 76%, and turnover has plummeted.[38]

In California, some local jurisdictions have taken action to improve the wages of their ECE workforce. For example, San Francisco in 2000 developed the most extensive wage subsidy program for ECE workers in the country. Most recently known as WAGES+, the program created a new funding scheme designed to increase payments specifically for the purpose of raising the compensation of ECE practitioners in licensed home and center/school-based programs that serve low-income children. The program became a third-party payer to underwrite the costs of improving compensation across the ECE sector. More recently, in June 2018, San Francisco voters passed Measure C, which is expected to raise approximately $146 million annually for ECE services in the city, and includes a specific mandate that a portion of the funds be used to raise early educator compensation. In Alameda County, voters in June 2018 narrowly defeated a ballot initiative that for 30 years would have imposed a retail sales tax to generate about $140 million annually for improving ECE programs. Part of the generated money would have been used to increase the compensation of ECE teachers to at least $15 an hour. These initiatives highlight how compensation strategies can address both the needs of the ECE workforce and consistency in the delivery of ECE services.

At the state level, California's progress since 2017 regarding ECE compensation has stalled.[39] Furthermore, the pay gap between early educators and those in higher grades has been heightened with the introduction of Transitional Kindergarten. TK teachers working with four-year-olds are paid on the same pay scale as K-12 teachers, even though the TK teacher may have less early childhood training than a state preschool teacher working with children of the same age. As a result, a more seasoned and qualified preschool teacher may make much less than a TK teacher. Although the qualification requirements for public preschool teachers in California are lower than for TK teachers, this is a reflection of regulations, not of the demands of the job that are placed upon educators. If California were to align its requirements for preschool and TK teachers, this move could lead to wage parity and alleviate the high workforce turnover in ECE.

The success of ECE compensation improvement policies rests on the ability to demonstrate through data the benefits such policies have on program quality. It is important to note that in this, as in other areas, the deficit of data on the ECE workforce is a major barrier to making sustainable and replicable improvements in the field. This deficit needs to be rectified as part of any reform package. Routine collection of wage and turnover data could reveal regional differences and more effectively demonstrate to policymakers the urgent need to invest in raising compensation to retain a skilled and stable workforce.

Appropriate Education and Training

A key recommendation of the National Academies' report was to strengthen competency-based qualifications, as described in Chapter 3. For those working with children under age eight, the report recommended that entry-level workers have foundational knowledge and that those working in a lead teacher role have a bachelor's degree with a focus on ECE. The latter includes owners and operators of family child care homes that also provide direct services to children.

The job of caring for multiple children who are not one's own is unique and requires different and more specialized skills than those required of parents. The latest developmental science shows that early educators must do much more than just keep children safe while their parents are at work. They must provide rich learning experiences for children from infancy on. Teaching young children is as complex as teaching older children, and it requires a similar level of knowledge and skills.[40] To succeed, early childhood teachers must understand how children's needs differ at different ages, and recognize that individual children of the same age will develop at different speeds. Early educators must also have a solid grasp of the foundations for learning (e.g., early literacy and mathematical understanding). They must understand how to promote learning in different ways and settings, and how to foster critical social and emotional skills. Educators must also understand the needs of children who do not speak English as their first language.[41] New data from the Migration Policy Institute show that 60% of California's children from birth to age eight are dual language learners.[42]

California has stalled in its progress toward appropriately educating and training its ECE workforce. While the higher education system in California is working to improve its offerings, the state has provided minimal resources to strengthen offerings or support affordable access to education and training for the ECE workforce. As noted in Chapter 3, unlike TK-12 educators, most teachers working with young children are not expected to possess professional qualifications or to obtain any supervised field experience.[43] A four-year-old in California could have a teacher with minimal training and no degree in education, a teacher with a bachelor's degree and a teaching credential, or something in between, depending on which program a family has access to and can afford.

The reality, however, is that there are minimal requirements or incentives to ensure that early educators have what they need to support children's development and learning. Education requirements are inconsistent, and there are few incentives to pursue training. California has fallen behind other states in efforts to increase educational requirements in child development for ECE teachers.[44] For example, California's Title 22 for child care centers does not stipulate any postsecondary degree requirements at any staff level. Furthermore, lead teachers are required to have only 12 semester units of college-level courses in child development. California is among the 18 states recently assessed as stalled in their efforts to align qualifications for teaching staff and center directors across settings. [45]

Best Way Forward

To follow the National Academies' recommendations, California's current ECE workforce needs high-quality and affordable higher education programs. As previously noted, ECE is currently the lowest-earning college major in the country, making financial aid and scholarships imperative for those enrolling. Leaving college with debt for a field with low pay is a significant disincentive to joining and remaining in the workforce.

The Child Development Staff Retention Program (AB 212) is among California's most significant sources of support for ECE teacher education and retention. Established in 2000, the purpose of the program is to encourage ECE providers to attain higher-level college degrees and continued professional growth. Nonetheless, the program in recent years has suffered substantial funding cuts. From its original funding of $15 million annually, the program now receives less than $11 million annually. The program, furthermore, is limited to certain segments of the workforce, according to a new report by the Learning Policy Institute.[46] Only ECE staff members in agencies supported by state-funded child development contracts are eligible for stipends to advance their education and professional development. If California increased the annual funding of AB 212 and expanded the eligibility requirements to reflect the diversity of the state's ECE workforce, it could make headway in creating a more highly skilled workforce.

The loss of the Comprehensive Approaches to Raising Education Standards (CARES) program is another example of how California has weakened its commitment to maintaining a highly qualified and trained ECE workforce. Designed to improve the quality of early learning programs by focusing on increasing teacher skills, effectiveness, education, and retention, the program provided stipends between 2000 and 2016 for early childhood educators to participate in education and training. Of California's 58 counties, 35 provided CARES program services during the 2014–2015 program year, with approximately 5,000 early educators enrolled in the programs. According to data collected during the 2015–2016 program year, CARES participants overwhelmingly attributed their academic and permit progress to the assistance they received in the program, and almost all survey respondents indicated that the courses they took helped improve the quality of their practices.[47] In Los Angeles County, annual program evaluations repeatedly found statistically significant growth in teacher knowledge of effective teacher/child interactions as a result of teacher participation in the program.[48] If California reinvested in the CARES program or others like it to provide educational supports in the form of scholarships, it would help counties across the state support the advancement of early educators along an educational pathway.

California does not need to start from scratch. Programs such as AB 212 and CARES provided the ECE workforce with vital supports for advancing the qualifications and skills of the workforce. A viable model has also been underway for decades at the DOD. The DOD's early education program requires administrators in both center- and home-based settings to hold a bachelor's degree or the equivalent, and training and curriculum specialists are expected to be included in center-based programs. Training topics are identified and delineated for all teaching

personnel, and the system provides resources to ensure that education and training are accessible and affordable.[49] And, as mentioned above, the DOD invests in the early childhood workforce by paying teachers the same as other DOD employees with similar training, education, seniority, and experience.[50]

Clearly Delineated Career Pathways

The National Academies' report also called for clearer career advancement pathways within the ECE field.[51] Career pathways delineate the professional roles and opportunities for career advancement available to individuals in the ECE profession. Career pathways inform professionals in the field of the level of experience they need to grow within a role, as well as of the skills and experience required to receive a promotion into higher-level roles within the profession. Furthermore, an ECE system must have the necessary structures in place to help prepare ECE professionals to assume the roles that are needed.

Career pathways are critical for alleviating inconsistencies in compensation and career advancement among professionals with different levels of education, training, and experience. Consequently, the lack of developed career pathways helps drive differences in the quality of early childhood educators, as well as inequities in the field based on factors such as race and ethnicity. It also contributes to the inconsistency in how educators are trained to perform their work. In short, a profession without clearly delineated career pathways is more susceptible to protecting poorly qualified educators and discriminatory practices, and to organizational fragmentation. Although there is scant evidence on the relationship between clearly delineated career pathways in an ECE setting and program quality or child outcomes, a workplace environment without clearly delineated career pathways is misaligned with what research has revealed is important for ECE program quality and healthy child development. If the teachers who are most qualified or who have a deeper understanding of children are not the ones being rewarded for their work, then ECE settings will continue to suffer from poor program quality and high workforce turnover.

Today, career pathways for California's ECE workforce are ill defined, and the problem begins with an equally unclear path of study for entering the ECE field. Any course of study within one of several disciplines focused on children of any age is considered an acceptable form of teacher preparation. In California, more than 100 colleges and universities offer degree programs in early childhood,[52] and many more organizations offer professional development.

Unlike other skilled professions, the curriculum is not standardized, admission standards vary, and expectations differ for student outcomes. In 2015, 19 of the 23 California State University campuses offered a bachelor's degree focused to some extent on young children, with programs housed in six different departments, schools, or colleges. Even when a program identifies young children in its scope, it may primarily address those in grades K-3 or in preschool, with little or no attention to the needs of infants and toddlers.[53]

The need to strengthen preparation and align course content in California has become even more acute with the introduction of TK. Although TK teachers require a credential, there

are few credential programs with content focused on children younger than age five. Even very well-educated preschool teachers—those with master's degrees in ECE, for example—are unable to hold TK jobs unless they go back to school for a credential because their degrees are not accepted as meeting state credentialing requirements. The additional costs and time involved in more schooling creates a substantial burden for those earning low wages, with no guarantee of a better job and higher pay upon completion. There is relatively little data on how much debt early educators have, but one survey of early education teachers in California revealed that among the teachers surveyed who had student loan debt, about one-quarter had between $10,001 and $25,000 in student debt, and another 22% owed between $25,001 and $50,000 in student loans.[54]

Best Way Forward

According to the National Academies of Sciences,[55] policies on the staffing of classrooms and centers determine the types of professional roles needed in an ECE setting, and these in turn determine the opportunities for employment and career advancement. Today, many states or localities are strengthening the career pathways for professionals to help with retention and recruitment of qualified educators. A 2014 review of statewide career development programs found that 37 states had some form of documentation describing how acquiring more training, education, and competencies could support career advancement.[56] The state pathways shared various components, including formal education, college credits, training hours, membership in a professional organization, and meeting licensure requirements or obtaining a certificate or credential.

Although California was not one of 37 states identified as having documentation for career advancement, extensive work has been undertaken in the state to articulate early learning guidelines and early educator competencies. The state could draw upon this work, as well as the experience from other states and models, to ensure that these guidelines and competencies translate into meaningful pathways. Again, the DOD serves as a good example. It has a well-articulated career ladder in which administrators in both center- and home-based settings are required to hold a bachelor's degree or the equivalent, and training and curriculum specialists are expected to be a part of the staffing model in center-based programs.[57] If California documented a career development pathway for its ECE workforce and supported the creation of the structures needed to support practices akin to those of the US Department of Defense, it could transform the way the state's ECE workforce approaches its work and career growth and support a more stable profession.

Between 2007 and 2016, Los Angeles County implemented the Child Development Workforce Initiative (CDWFI) program, which was designed to provide direct support services to promote entry into and advancement in the ECE field. The program offered services centered on academic, financial, professional, and social supports. A 2016 evaluation of the program[58] revealed that the program was largely successful in drawing new membership into the ECE field and in promoting career advancement. The evaluation also provided evidence that the program was successful in increasing the ECE qualifications of participants, increasing workforce

retention, and increasing the quality of ECE practices and programs. Such findings demonstrate that investing in structures that support career pathways can also support general ECE program quality and child outcomes.

As data collection in the ECE field becomes standardized, it will be important for data collection efforts to include data that allow researchers to analyze information on the same individuals over time. Longitudinal data is especially relevant to the creation of clearly delineated pathways because such data can be used to understand the career trajectories of the workforce over time. Without longitudinal data, knowledge of the workforce's career trajectories would be limited to overall trends and various points in time, without regard to geography, wages, characteristics of the children served, or characteristics of the workforce, all of which are important to understanding who is and who is not advancing and at what pace. An understanding of how the ECE workforce advances in the field and how this advancement differs based on key factors is vital for making progress in creating an ECE system in California that is effective and equitable for children and early educators.

Supportive Working Conditions

Finally, the National Academies' report also identified supportive working conditions as a key ingredient in the creation of a strong ECE workforce.[59] These working conditions should enable teachers to provide a stable environment for children's healthy development and learning, and ensure teachers have the opportunity to refine their practice.

K-12 teachers can routinely expect that their jobs will include professional supports, such as paid planning and professional development time, dependable work schedules, payment for personal leave (sick, vacation, holidays), and health and retirement benefits.[60] These supports enable teachers to continue to develop their skills on the job and contribute to their well-being. These supports are rarely built into ECE jobs. In addition to early childhood teachers, administrators in ECE settings must also have knowledge and skills that enable them to help teachers strengthen their practice. In K-12 settings, teachers can expect to work under the leadership of a principal who has completed graduate-level training and has prior teaching experience. Expectations of administrators in the ECE workforce are lower.

The lack of supportive working conditions is a concern for both the workforce and the quality of ECE. Studies have also demonstrated that teachers' stress and symptoms of depression interfere with their teaching and reduce positive interactions with children.[61] Several recent studies have demonstrated a relationship between the work supports and environments of teachers and the quality of services for children. A 2016 study in Alameda County,[62] for example, found a link between work supports and higher-quality teaching. A similar 2014 study conducted with more than 600 teachers in one state's quality rating and improvement study found that teachers in programs with higher ratings of observed quality reported more program supports and greater economic security.[63]

ECE teachers in California seldom receive job-based benefits, such as paid sick days, holiday/vacation days, or assistance with health insurance costs. Although the lack of state-

level data makes it difficult to assess the extent to which early childhood educators have the necessary work supports, a 2016 study in Alameda County provides some insight into how some of the state's teachers are faring.[64] The study revealed a workforce that is stressed, with notable rates of depression. Furthermore, staff members who perceived their work environments as less supportive and who reported lower levels of well-being were less likely to promote children's higher-order thinking skills, provide feedback, and use advanced language. Given the general lack of resources for ECE, there is reason to believe that these experiences are common throughout California.

According to a 2015 study of the ECE workforce in Los Angeles County,[65] teaching staff who left the field did so in search of jobs that not only were higher-paying, but also were more stable, offered more consistent hours, and provided greater benefits. Staff also left to pursue higher education or because they had completed a higher education degree and were looking for a new job that rewarded them for their education investment. Small, private ECE centers were especially challenged to compete with the wages or benefits that school districts can provide. Similarly, in San Mateo County, a 2017 study revealed that low wages and benefits was the second most common reason that ECE workers left their positions.[66]

Regarding ECE program administrators, the requirements in California vary across program type and funding source. As noted in Chapter 3, at the highest level of requirements in state preschool and contracted Title V centers, site supervisors only need to hold the equivalent of an associate's degree and to have completed two college units focused on adult supervision. In the majority of center-based programs in California, the requirement is only 15 college units. In licensed home-based programs, there are no education or training requirements such as business management or personnel development, even for licensed large family child care homes that require assistants. Furthermore, principals overseeing schools with Transitional Kindergarten classrooms and preschools are not required to obtain specific knowledge related to the learning and developmental needs of young children.

Best Way Forward

Understanding the differences in the needs and circumstances of ECE teachers based on key factors such as the ages of the children they work with and type of program and setting is necessary to craft and assess policies that ensure supportive work environments. Nonetheless, gaining such an understanding requires collecting data on workforce supports across all types of ECE settings. Investing in the collection of such data would help inform policymakers of the types of workforce supports that are most important for supporting educators and for creating high-quality ECE programs.

Additionally, as California works to strengthen and improve existing professional development and quality improvement systems, opportunities exist now to support improved working conditions. For example, as the state undertakes a revision to the Quality Rating and Improvement System (QRIS), revised indicators can reflect critical workplace supports such as appropriate levels of paid planning time, which are necessary for educators to engage in

professional practice to support children's development and learning and to alleviate conditions that cause educator stress.

Conclusion

ECE jobs are critical to every California community and to the state's goals of creating a strong middle-class workforce. Early childhood educators are an important part of that workforce. But more must be done to ensure they are well prepared, their work is supported, and their value to society and their education and training are recognized and compensated.[67]

California's early childhood workforce is characterized by low wages and inconsistent requirements for educators. Preschool teachers typically earn much less than kindergarten teachers, and the wages of more than half of child care workers are so low that they have to use public assistance to meet basic needs. These conditions make it difficult to recruit and retain teachers, which in turn undermines the relationships that are vital to children's healthy development.

Forging a path to a skilled and stable early education workforce will require reforms that are designed to

- Invest in and maintain a comprehensive, up-to-date workforce data system to identify the characteristics and needs of the workforce and to assess the reach of policy initiatives and investments;
- Align qualifications and educational requirements that reflect foundational knowledge in child development for all early educators, and that require all lead teachers to have a bachelor's degree;
- Establish career pathways and opportunities for advancement, with financial supports for higher education;
- Improve compensation and professional supports for teachers on the job; and
- Build support for higher education reforms to adapt to these new qualifications and pathways.

California can look inward to its rich history of advocacy and policy ideas. These issues and challenges in building and sustaining a skilled and stable ECE workforce are not new to California. Nearly 40 years ago, advocates and researchers in the state were among the first in the country to document poor wages and to link turnover among early educators to low quality in services for children.[68] A rich tradition of research and advocacy from California continues, often spurring reforms in other parts of the country. Policymakers are well poised to generate bold and comprehensive reforms that address how our state prepares, supports, and compensates our early educators, and can therefore re-establish California as a leader for our children and their ECE teachers.

Financing and stabilizing a skilled ECE workforce will require a sizable investment. As noted above, a new report by the National Academies estimates it will cost $140 billion to create a high-quality early care and education system that puts the United States on par with

other countries, and an additional $14 billion to reach full compensation parity with elementary school teachers. It is critical for California to estimate the cost of providing such a system in the state, and it must ensure that it accounts for equitable services for all children and families, as well as compensation and professional supports for early educators.

Finally, informing and documenting the impact of any such reforms on the workforce and on quality across the state will require that California develop and implement a strategy to collect comprehensive, up-to-date data on the ECE workforce. California has long suffered from a lack of data about this workforce. Without such data, it is difficult to inform policy and systems reforms and to understand how different segments of the workforce (e.g., by region, funding source, demographic characteristics, age of children in programs) will be affected by policies and investments.

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CHAPTER 5: PROGRAM QUALITY MONITORING AND IMPROVEMENT

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There are three primary methods of monitoring and improving the quality of early education programs in California. The first is through program licensing, which is designed to ensure that centers and Family Child Care Homes (FCCHs) are meeting the minimum requirements for legal operation. All licensed programs (aside from preschools under local education agencies [LEAs]) must meet the regulations specified in Title 22 of the California Administrative Code, which is based on the Health and Safety Code. In addition, state preschool and child care centers contracted with the Department of Education must meet the Title 5 Education Code regulations, which set stricter adult/child ratios and staff qualifications than Title 22 and require an education plan. Head Start programs and Title I-funded district-run preschools are required to meet the Federal Head Start Education Performance Standards.

The second main strategy for monitoring and promoting quality is through the Quality Rating and Improvement System (CA-QRIS, currently referred to as Quality Counts). In the California QRIS, programs—both under Title 22 and under Title 5 regulations—are rated on a continuum, with licensing requirements serving as the baseline for determining program quality. The aims of QRIS are to provide information to families, identify areas of strengths and weaknesses, and provide supports to increase quality.

The third method is through various quality improvement programs and resources. Although many of these resources existed before California created a QRIS, they have increasingly become connected to the QRIS.

Another strategy for monitoring quality is through an accreditation system, such as the one used by the National Association for the Education of Young Children (NAEYC). Programs go through a rigorous process to demonstrate that they have met clearly defined standards. Some states link their reimbursement rates to NAEYC accreditation, but California does not.[1]

In this Chapter, we first describe program licensing and the QRIS in California, and we provide an analysis of how well these methods work as tools for monitoring and improving program quality, with special consideration of the Desired Results Developmental Profile (DRDP), the tool most often used to assess children's developmental levels. We then review various strategies used in California to improve program quality—such as professional development, coaching, and financial aid—and the evidence for their effectiveness. Transitional kindergarten is not included in this chapter because it falls under the K-12 education system requirements, and special education programs are discussed in Chapter 2. In addition to reviewing documents and reports, we conducted interviews with nine people who have a great deal of experience in administrative and policy positions related to early education in California (see Appendix A for a list).

Licensing and Regulations[a]

Some subsidized child care providers serving children in California are exempted from licensing requirements. License-exempt providers include those who care only for relatives or for the children of one other family (other than the provider's own children) and cooperative agreements (co-ops) in which parents share responsibility for child care.[2] Families can use child care subsidies for license-exempt providers if the providers meet minimal requirements. For example, caretakers who do not qualify for an exemption as a close relative are required to complete a Health and Safety Self Verification. Unlike licensed providers, license-exempt providers do not have to obtain fingerprints or criminal record checks for other individuals living in the home where care is being provided. From October 2016 to April 2017, the average percentage of children in license-exempt care ranged from 17% for infants 0-18 months to 2% for children 48-60 months.[3]

Child Care under Title 22

Requirements. A child care program that does not meet the requirements for license-exempt status must obtain a license. Title 22 of the California Code of Regulations establishes the standards for centers and family child care homes that may be accessed through CalWORKs and non-CalWORKs Alternative Payment programs. Licensed providers under Title 22 must meet health and safety standards, but they are not required to provide an educational component. A partial list that illustrates the requirements is provided below.

Safety and health-related requirements.[4] Child care centers and family child care homes must:

- have criminal record clearance of staff;
- secure and maintain fire clearance;
- maintain a disaster and mass casualty plan that is documented and updated every six months;
- employ at least one person who has at least 15 hours of training in preventative health practices;
- employ at least one staff member who is CPR certified and present at all times;
- allow inspection authorities to enter the center without notice;
- report to the Department of Licensing any injury to a child that requires medical treatment, any unusual incident that threatens child safety, and any suspected physical or psychological abuse of any child;
- make sure all children are immunized;

[a] We summarize here the current requirements that are not specifically related to training required of adults working with children in child care programs and preschools. The staff permit requirements are discussed in Chapter 3.

- inspect children for illness and ask them to stay home or be taken home if they are obviously sick (or in a family care home, separate them from other children).

In addition, there are requirements, for example:

- regarding outdoor space, storage space, fixtures, furniture, and equipment;
- prohibiting corporal or unusual punishment;
- allowing parents to visit the program in which their child is enrolled at any time during business hours;

Additional requirements pertain to infant care, such as eating, sleeping, diapering, transportation, personnel, and hygiene. For example, an individual feeding plan is required for each infant and the changing table must be disinfected after each use.

Ratio and group size. In addition to these health- and safety-related requirements, there are requirements related to the ratio of children to licensed adults and the maximum number of children allowed in a group. Caregiver-to-child ratios depend on the age of the children.

In child care centers, infant programs require a ratio of 1 adult to 4 children, with a maximum group size of 12 children.[5] For programs with children ages 18 to 30 months, the ratio is 1:6, with a maximum group size of 12 toddlers. A single teacher may be responsible for up to 12 preschool-aged children (ages 2-6 years), although if an aide is also present, the number increases to 15 or 18 children, depending on the aide's education. In mixed-age groups, the number of staff must accommodate the age of the youngest child.

The ratios differ for home-based care at small family and large family homes.[6] Small family child care providers may supervise either four infants or six children, no more than three of whom may be infants. If no more than two children are infants and at least one child is six years of age, at least one child attends school, and parents have been notified, home care providers may supervise up to eight children. Large family care homes may supervise up to 12 children provided that no more than four are infants; however, these homes must include an assistant in addition to the primary caregiver. In large family care homes, the requirement is for two adults with up to 12 children (which may include up to four infants), or 14 children (and up to three infants) if at least two children are over the age of six years).

The California Title 22 ratios are larger than those recommended in the NAEYC guidelines (1:3 for infants; 1:4 for toddlers 12-23 months; 1:5 for two-year-olds; 1:6 for two-and-a-half-year-olds; 1:8 for three-year-olds, and 1:9 for four-year-olds).[7] Similar to California's guidelines, Head Start's guidelines for centers are for a ratio of 1:4 for children under age three, but Head Start limits the group size to eight. For three-year-olds, the ratio is 1:8 with a maximum number of 17, and for four-year-olds the ratio is 1:10 with a maximum of 20 children.[8] For home-based care, the Head Start guidelines are 1:4 for infants and toddlers with

no more than two under the age of 18 months. For older children, the ratio is 1:6 with no more than two children under the age of two years and a maximum group size of 12.

How are licensed programs monitored? Licensing for child care in California is managed by the Child Care Licensing Program.[9] **This program states that its primary purpose is "**ensuring that licensed facilities meet established health and safety standards through monitoring facilities, providing technical assistance, and establishing partnerships with providers, parents, and the child care community." All centers must pay licensing fees annually and be issued a license for each separate age group of children served by the facility. Part of the application requires programs to submit plans of operation—including goals, procedures, sample menus, and transportation needs.

Program licensing remains in effect indefinitely unless there is a major change (e.g., the licensee sells the facility or facility property) or problem (e.g., the licensee is convicted of child abuse).[10] Additionally, a program may receive a temporary suspension or revocation of its license if there is an ongoing or serious licensing violation.[11]

Before receiving a license, programs undergo pre-licensing visits to determine whether all licensing requirements have been met. Licensed programs are then continually monitored for licensing compliance by the Child Care Licensing Program. A licensing program analyst (LPA) conducts unannounced site visits every five years, or more frequently under special circumstances, to inspect adherence to licensing requirements. After the inspection, the program director meets with the LPA to discuss any deficiencies and to develop a plan for the program to become compliant. The LPA records a notice of deficiency and a follow-up visit is conducted to determine whether the deficiency has been corrected. If it has not, the program may receive a citation or have its license suspended or revoked.[12]

Under unusual circumstances, programs are monitored on an annual basis, but for the most part the department conducts annual unannounced inspections of no less than 30% of licensed child daycare centers and FCCHs, and all facilities are inspected at least once every three years.[13] Additionally, an LPA conducts an inspection in response to complaints filed against a program or FCCH.[14] In 2016, 21,025 deficiencies were cited by LPAs during monitoring visits. Of these deficiencies, 6,422 were cited at preschool child care centers, 1,329 were cited at infant care centers, and 13,274 were cited at FCCHs.[15]

California monitoring falls far short of some standards and is less frequent than that of most other states. According to the Caring for Our Children: National Health and Safety Performance Standards, in addition to the inspection prior to issuing an initial operating license to a child care provider, the state licensing agency should conduct on-site inspections to measure compliance with licensing rules at least twice a year, including one unannounced inspection.[16] US military day care centers have four unannounced inspections a year, as required by the Military Child Care Act of 1989. In 2014, 25 states required inspections of child

care centers once a year, 14 twice a year, and seven states required inspections three or more times a year.[17] California is one of only 10 states that offer FCCH non-expiring licenses. In all other states, FCCH licenses are for one or two years. Most states (19) make inspections once a year, 11 conduct them twice a year, and in five states, inspections occur three or more times a year.[18] In the interviews we conducted with a wide range of people who have deep expertise in ECE programs and policy in California, most interviewees highlighted the need for more frequent licensing site visits, preferably on an annual basis.

Preschool and Child Care under Title 5

Requirements. Title 5 of the California Code of Regulations, which applies to General Child Care and Development and state preschool programs, adds standards that concern teacher and curriculum quality to the basic health and safety requirements under Title 22. In addition to specific teacher qualifications (see Chapter 3), programs must meet educational standards and implement an annual plan for a self-evaluation process.

The quality requirements include:[19]

1. a written educational philosophy and goals;
2. administration of the DRDP assessment of individual children within 60 calendar days of enrollment and at least once every six months thereafter;
3. a variety of educational requirements (e.g., the program must be developmentally appropriate and inclusive of children with special needs);
4. a staff development program;
5. parent and community involvement;
6. support for health and social services; and
7. a nutrition program.

With regard to adult:child ratios, Title 5 regulations are more stringent than those of Title 22: 1:3 for infants 0-18 months; 1:4 for toddlers 18-36 months, and 1:8 for preschoolers.[20]

How are licensed programs monitored? Under Title 5, preschool programs submit an annual self-evaluation report on June 1 of each year to the California Department of Education. The self-evaluation report includes 1) an analysis of the environmental ratings scale results, child evaluations using the DRDP, and an assessment of the program by parents using the Desired Results Parent Survey; 2) an assessment of the program by staff and board members as evidenced by written documentation; 3) a written list of the tasks needed to modify the program to address all areas that need improvement; and 4) procedures for the ongoing monitoring of the program to assure that areas of the program that are satisfactory continue to meet standards. The contractor must then modify its program to address any areas identified during the self-evaluation as needing improvement. [21]

Every three years, a program compliance review is conducted, including an announced visit to the program premises, to determine the contractor's compliance with applicable laws, regulations, or contractual provisions.[22] The environmental rating scale that is part of the annual self-assessment is required as part of the program compliance review. A program in violation is typically placed on conditional status and has to make the correction within 45 days or develop a correction plan. Programs on conditional status are not allowed to apply for additional contracts.

Conclusions

Low standards. Using a variety of child care licensing benchmarks (minimum education for lead teachers, minimum initial and annual training, minimum annual training, learning activities, basic health and safety standards, parent communication, staff:child ratios, group size, frequency and posting of inspections, caseloads, and licensing staff qualifications), Child Care Aware ranked California 48th among all states, above only Nebraska and Idaho.[23] One could quibble with specific criteria for individual ratings, but they are reasonable and no amount of reanalysis would make California look good compared to most other states.

The child care licensing requirements in California, as in most states, focus primarily on health and safety and the structural characteristics of programs. There are good reasons for these requirements, but research suggests that the quality of interactions and relationships between teachers and children is more strongly correlated with child outcomes.[24] For the most part, such processes are monitored through state QRISs rather than through licensing requirements, but in California very few early childhood education programs participate in QRIS.

Because the standards for programs under Title 22 are so low, and because currently the quality of care children receive depends on the type of subsidy a family receives (putting the program under Title 22 or Title 5) rather than on the needs of the child, in 2014 the Legislative Analyst recommended requiring developing standards for all children birth through age four that are similar to the existing requirements for direct-contracted (Title 5) programs, but modified to reduce the programmatic and administrative burden.[25] Such a change would streamline licensing requirements and monitoring while increasing the quality of children's experience and developmental outcomes. Most EC experts who were interviewed volunteered that both Title 22 and Title 5 licensing standards should be raised. One interviewee pointed out that licensing should be better integrated with other quality improvement supports, such as the QRIS, in order to streamline these efforts and reduce the burden on programs.

License-exempt programs. A second significant problem in California is the high proportion of children in license-exempt care programs (see Chapter 1), which at most need only to submit a Health and Safety Self Verification. Based on data from 2015, California ranks 11th among the 50 states for having a high percentage of subsidized children in license-exempt

child care.[26] Some states have much more stringent regulations for subsidized home-based care. In 15 states, home inspections are required, and in most of these, follow-up inspections are conducted at least once a year.[27] For example, Oregon requires providers receiving payment to care for only one unrelated child to be registered,[28] and Delaware requires such providers to be licensed.[29] In Nevada, exempt programs have an initial site visit within 45 days of registration, followed by periodic visits every six months. Oklahoma limits the use of public funds to licensed arrangements.[30]

Little is known about the quality of care children receive in license-exempt homes in California, although a review of research investigating child care in the homes of "family, friends and neighbors" nationally reported that studies using the Family Day Care Rating Scale (FDCRS) to assess quality consistently rated the quality as inadequate to minimal. Studies using the QUEST—a new quality assessment tool designed for home-based child care—found that caregiving settings received adequate ratings for space and comfort, outdoor materials and safety, supervision and monitoring, and caregiver warmth and responsiveness.[31] The settings were rated lower in provisions of learning opportunities and support of socioemotional development, and television was widely used. We know of no study specifically on license-exempt providers in California, but we suggest that they be examined to ensure that subsidies to license-exempt caregivers are serving children's best interests.

Quality Rating and Improvement System

Subsequent to being licensed, programs can participate in the Quality Rating and Improvement System (QRIS), designed to help them assess and improve quality. QRIS is "a systemic approach to assess, improve, and communicate the level of quality in early- and school-age care and education programs."[32] Early childhood programs receive a quality rating based on a set of quality indicators. The use of the QRIS is based on the assumptions, discussed in more detail below, that the quality of early childhood programs can be measured, that the quality represented by different scores produces meaningful differences in learning outcomes for children, and that the scores can serve as an incentive for improvement.[33] All but one state (Mississippi) currently implement or plan to implement a QRIS.[34] While QRISs across the country vary, most contain quality standards for early childhood programs, program quality assessments, a rating system that is either publicly disseminated or used for internal accountability, support for program improvement efforts, and financial incentives for participation and/or quality improvement.[35]

How Does QRIS Work in California?

In December 2011, California won a federal Race to the Top–Early Childhood Education grant providing $75 million for the development of a statewide QRIS.[36] In contrast to most other states, California opted to implement its QRIS locally, citing California's diversity, size, and ongoing local quality efforts as rationales.[37] From 2013-2016, California engaged in a pilot

phase for QRIS implementation in 16 counties. California's QRIS is now being implemented on a voluntary basis in all counties across the state.

California's QRIS (also known as Quality Counts) is overseen by the California Department of Education and First 5 California and implemented locally by county education offices.[38] All counties agree to adopt a common QRIS framework and rating system developed during the pilot phase, but are given discretion to make certain local determinations within the common framework.[39] Additionally, there are 10 Regional Hubs encompassing all 58 counties, which allow for coordination of CA-QRIS implementation among counties.[40] The local, county-based model of QRIS implementation differentiates California from most other states. All other current QRISs are implemented statewide, with the exceptions of Florida and Kansas, which are also locally-implemented.[41]

CA-QRIS rating matrix. The county consortium agreed-upon rating matrix consists of seven elements (five for FCCHs) organized into three core areas: *Core 1*, Child Development and School Readiness; *Core 2,* Teachers and Teaching; and *Core 3*, Program Environment. The seven elements include child observations, developmental and health screenings, minimum qualifications for lead teachers, effective teacher-child interactions, ratios and group sizes, the program environment, and director qualifications.[42] Based on a point system, described below, programs are designated as being in one of five tiers.

Within each element, a program receives a rating of 1-5 points, with 1 point indicating the minimum requirement for state licensure within the element and 5 points indicating the highest level of quality.[43] To be rated at Tier 1, a program needs to receive a total score of 7 points (5 points for FCCHs), indicating that the program has met the minimum qualifications for licensure. Programs receiving 8 to 19 points (6 to 13 for FCCHs) are rated at Tier 2; those with 20 to 25 points (14 to 17 for FCCHs) are rated at Tier 3; those with 26 to 31 points (18 to 21 for FCCHs) are rated at Tier 4; and programs receiving 32 points (22 for FCCHs) or above are rated at Tier 5.[44]

Tiers 2 and 5 are customizable at the local level, with local modification decisions made by the County Consortium. For example, Fresno County has added an element to Tier 5 requiring 21 hours of professional development on working with children who have special needs.[45] In practice, however, most Consortia are not implementing local modifications.[46] The seven elements and the scoring for the current rating matrix are shown in the table below.[47]

Table 1. California Quality Rating and Improvement System (CA-QRIS)

CALIFORNIA QUALITY RATING AND IMPROVEMENT SYSTEM (CA-QRIS)
QUALITY CONTINUUM FRAMEWORK –RATING MATRIX WITH ELEMENTS AND POINTS FOR CONSORTIA COMMON TIERS 1, 3, AND 4

ELEMENT	1 POINT	2 POINTS	3 POINTS	4 POINTS	5 POINTS
CORE I: CHILD DEVELOPMENT AND SCHOOL READINESS					
1. Child Observation	☐ Not required	☐ Program uses evidence-based child assessment/observation tool annually that covers all five domains of development	☐ Program uses valid and reliable child assessment/ observation tool aligned with CA *Foundations & Frameworks*[1] twice a year	☐ DRDP (minimum twice a year) and results used to inform curriculum planning	☐ Program uses DRDP twice a year and uploads into DRDP Tech and results used to inform curriculum planning
2. Developmental and Health Screenings	☐ Meets Title 22 Regulations	☐ Health Screening Form (Community Care *Licensing form LIC 701 "Physician's Report - Child Care Centers" or equivalent)* used at entry, then: 1. Annually **OR** 2. Ensures vision and hearing screenings are conducted annually	☐ Program works with families to ensure screening of all children using a **valid and reliable developmental screening tool** at entry and as indicated by results thereafter **AND** ☐ Meets Criteria from point level 2	☐ Program works with families to ensure screening of all children using the **ASQ** at entry and as indicated by results thereafter **AND** ☐ Meets Criteria from point level 2	☐ Program works with families to ensure screening of all children using the **ASQ & ASQ-SE**, if indicated, at entry, then as indicated by results thereafter **AND** ☐ Program staff uses children's screening results to make referrals and implement intervention strategies and adaptations as appropriate **AND** ☐ Meets Criteria from point level 2
CORE II: TEACHERS AND TEACHING					
3. Minimum Qualifications for Lead Teacher/ Family Child Care Home (FCCH)	☐ Meets Title 22 Regulations **[Center:** 12 units of Early Childhood Education (ECE)/Child Development (CD) **FCCH:** 15 hours of training on preventive health practices]	☐ **Center:** 24 units of ECE/CD[2] **OR** Associate Teacher Permit ☐ **FCCH:** 12 units of ECE/CD **OR** Associate Teacher Permit	☐ 24 units of ECE/CD + 16 units of General Education **OR** Teacher Permit **AND** ☐ 21 hours professional development (PD) annually	☐ Associate's degree (AA/AS) in ECE/CD (or closely related field) **OR** AA/AS in any field plus 24 units of ECE/CD **OR** Site Supervisor Permit **AND** ☐ 21 hours PD annually	☐ Bachelor's degree in ECE/CD (or closely related field) **OR** BA/BS in any field plus/with 24 units of ECE/CD (or master's degree in ECE/CD) **OR** Program Director Permit **AND** ☐ 21 hours PD annually
4. Effective Teacher–Child Interactions: CLASS Assessments (*Use tool for appropriate age group as available)	☐ Not Required	☐ Familiarity with CLASS for appropriate age group as available by one representative from the site	☐ Independent CLASS assessment by reliable observer to inform the program's professional development/improvement plan	☐ Independent CLASS assessment by reliable observer with minimum CLASS scores: **Pre-K** ▪ Emotional Support – 5 ▪ Instructional Support –3 ▪ Classroom Organization – 5 **Toddler** ▪ Emotional & Behavioral Support – 5	☐ Independent assessment with CLASS with minimum CLASS scores: **Pre-K** ▪ Emotional Support – 5.5 ▪ Instructional Support – 3.5 ▪ Classroom Organization – 5.5 **Toddler** ▪ Emotional & Behavioral Support – 5.5 ▪ Engaged Support for Learning – 4 **Infant** ▪ Responsive Caregiving (RC) – 5.5
CORE III: PROGRAM AND ENVIRONMENT - Administration and Leadership					
5. Ratios and Group Size (Centers Only beyond licensing regulations)	☐ **Center:** Title 22 Regulations **Infant** Ratio of 1:4 **Toddler Option** Ratio of 1:6 **Preschool** Ratio of 1:12 ☐ **FCCH:** Title 22 Regulations *(excluded from point values in ratio and group size)*	☐ **Center - Ratio: Group Size** **Infant/Toddler –** 4:16 **Toddler –** 3:18 **Preschool –** 3:36	☐ **Center - Ratio: Group Size** **Infant/Toddler–** 3:12 **Toddler –** 2:12 **Preschool–** 2:24	☐ **Center - Ratio: Group Size** **Infant/Toddler –** 3:12 or 2:8 **Toddler –** 2:10 **Preschool –** 3:24 or 2:20	☐ **Center - Ratio: Group Size** **Infant/Toddler –** 3:9 or better **Toddler –** 3:12 or better **Preschool –** 1:8 ratio and group size of no more than 20
6. Program Environment Rating Scale(s) (Use tool for appropriate setting: ECERS-R, ITERS-R, FCCERS-R)	☐ Not Required	☐ Familiarity with ERS and every classroom uses ERS as a part of a Quality Improvement Plan	☐ Assessment on the whole tool. Results used to inform the program's Quality Improvement Plan	☐ Independent ERS assessment. All subscales completed and averaged to meet overall score level of 5.0	☐ Independent ERS assessment. All subscales completed and averaged to meet overall score level of 5.5 OR Current National Accreditation approved by the California Department of Education
7. Director Qualifications (Centers Only)	☐ 12 units ECE/CD+ 3 units management/ administration	☐ 24 units ECE/CD + 16 units General Education +/with 3 units management/ administration **OR** Master Teacher Permit	☐ Associate's degree with 24 units ECE/CD +/with 6 units management/ administration and 2 units supervision **OR** Site Supervisor Permit **AND** ☐ 21 hours PD annually	☐ Bachelor's degree with 24 units ECE/CD +/with 8 units management/ administration **OR** Program Director Permit **AND** ☐ 21 hours PD annually	☐ Master's degree with 30 units ECE/CD including specialized courses +/with 8 units management/ administration, **OR** Administrative Credential **AND** ☐ 21 hours PD annually
TOTAL POINT RANGES					
Program Type	**Common-Tier 1**	**Local-Tier 2**[3]	**Common-Tier 3**	**Common-Tier 4**	**Local-Tier 5**[4]
Centers 7 Elements for 35 points	**Blocked** (7 points) – Must Meet All Elements	**Point Range** 8 to 19	**Point Range** 20 to 25	**Point Range** 26 to 31	**Point Range** 32 and above
FCCHs 5 Elements for 25 points	**Blocked** (5 points) – Must Meet All Elements	**Point Range** 6 to 13	**Point Range** 14 to 17	**Point Range** 18 to 21	**Point Range** 22 and above

Most of the instruments for assessment are designated, or the number of points received depends on the use of the designated instruments. For example, for the *Child Observation*, the approved instruments include Creative Curriculum Gold, the Early Learning Scale and the Brigance Inventory of Early Development III, but the Desired Results Developmental Profile (DRDP), discussed in detail below, is clearly favored. As is seen in the table above, to receive four points, a program must use the DRDP twice a year and show evidence that the results are used to inform curriculum planning. To receive five points, a program must use the DRDP twice a year and upload the results into an online database, DRDPtech.[48]

For *Development and Health Screenings*, to receive four points, a program must use the Ages and Stages Questionnaire (ASQ) screening tool. If a program uses both the ASQ and the Ages and Stages Questionnaire-Socioemotional (ASQ-SE) screening tools and uses the results to inform referrals and interventions, the program receives five points.[49] The ASQ is a developmental screening tool measuring children's communication, gross motor, fine motor, problem-solving, and personal-social skills. It is appropriate for use with children ages 1-66 months and is completed by the child's parents and teacher.[50] The ASQ-SE additionally measures children's self-regulation, compliance, social communication, adaptive functioning, autonomy, affect, and interactions with people. It is appropriate for use with children up to 72 months and is often used as a tool for the early identification of developmental delays or social-emotional difficulties.[51]

The CLASS must be used to assess *Teacher-Child Interactions*, and to receive four or five points, the program must have an independent CLASS assessment with minimum CLASS scores used to determine the point level.[52] The CLASS is comprised of three subdomains: Emotional/Behavioral Support, Classroom Organization, and Instructional Support. Within *Emotional/Behavioral Support*, classrooms are rated based on the classroom climate created by the teacher and the teacher's responsiveness to children, acknowledgement of children's feelings, redirection of challenging behavior, problem resolution strategies, and support of positive peer relationships. *Classroom Organization* assesses classroom routines and procedures, the consistency of classroom schedules, established routines, and the quality of learning center designs. *Instructional Support* includes teachers' support and extension of children's thinking, problem solving, conversational skills, and vocabulary. Classrooms are rated by a trained observer, who assigns a score of 1-7 within each subdomain.[53]

According to a 2009 study, California preschool teachers scored very low on average on the Instructional Support subscale, suggesting that quality improvement is especially needed with regard to instruction.[54] The CLASS, however, does not provide information on specific subject-matter teaching, such as literacy and math. Although the measure has been shown to predict children's literacy and math skills, the associations are very weak.[55] Another limitation of the CLASS is that it does not provide specific information related to teaching that teachers

could use to improve their literacy and math instruction. An assessment of the quality of literacy and math instruction, specifically, may predict student learning better than the CLASS and would be more useful as a formative assessment to help teachers improve their instruction in these two important domains.

The *Environmental Rating Scales*, approved for CA-QRIS, assess a broader set of environmental dimensions than the CLASS, which focuses on teacher-child interactions. There are three scales, each designed to assess the quality of care within different segments of early childhood care. The Early Childhood Environment Rating Scale-Revised (ECERS-R) is suitable for use in early childhood centers and includes quality ratings in seven subscales: Space and Furnishings, Personal Care Routines, Language-Reasoning, Activities, Interactions, Program Structure, and Parents and Staff. The Infant/Toddler Environment Rating Scale-Revised (ITERS-R) was designed to measure quality using seven subscales in infant and toddler center-based care programs. The seven domains include Space and Furnishings, Personal Care Routines, Listening and Talking, Activities, Interactions, Program Structure, and Parents and Staff. Lastly, the Family Child Care Environment Rating Scale-Revised (FCCERS-R) is suitable for use in FCCHs and assesses quality with the following seven subscales: Space and Furnishings, Personal Care Routines, Listening and Talking, Activities, Interactions, Program Structure, and Parents and Providers. For CA-QRIS compliance, programs are rated by a trained observer using the appropriate scale.[56]

Participation. Participation in QRIS by early care programs is voluntary, with programs serving low-income populations prioritized during the piloting phase. As of September 2017, California had 10,424 daycare centers and 2,022 infant centers, for a total of 12,246 licensed centers in the state. Of these, 3,522, or 28.7%, participated in QRIS. Of the 29,348 FCCHs, 2,025, or 6.8%, participated.[57]

There are several reasons for the much higher participation rates of centers compared to FCCHs.[58] One reason is that a substantial portion of QRIS funding is set aside for state preschool providers. Some counties have also purposefully focused on centers in their recruitment efforts because by doing so, they reach more children in any given program. Center-based providers also tend to have higher initial ratings than family child care providers, making it easier to recruit them. In 2016, 71% of the participating centers but only 10% of the participating FCCHs were rated in Tiers 4 and 5.[59] The lower ratings of FCCHs may be in part due to structural factors. For example, it is more difficult to organize homes than classrooms to obtain high scores on the environmental rating scale. In addition to the fear of low ratings, the lower participation of FCCHs may reflect the formidable amount of documentation required.

Participation rates also vary substantially across counties, even among those that were included early in the RTT pilot, as shown below with data from 2016:[60]

Table 2. Participation Rates by County

County	Total Licensed Centers	% Participation in QRIS	Total FDCH	% Participation in QRIS
Alameda	637	31	1582	4
Contra Costa	396	22	1097	6
El Dorado	82	46	96	40
Fresno	346	29	598	7
Los Angeles	3067	21	6290	4
Merced	98	43	215	15
Orange	934	25	1230	5
Sacramento	537	37	1421	3
San Diego	1055	26	3367	4
San Francisco	330	46	735	34
San Joaquin	225	44	696	6
Santa Barbara	170	56	398	12
Santa Clara	712	17	1611	7
Santa Cruz	122	36	321	12
Ventura	247	43	661	7
Yolo	93	49	236	8

Implementation. Implementation of CA-QRIS is the responsibility of the County Consortium.[b] If a program chooses to participate in QRIS, the program staff must apply to the county and attend an orientation on the rating process. A program rating is then completed through a combination of a program self-report, file reviews, and external assessments. For the self-report, programs submit a portfolio containing relevant documents to the Consortium. A file review is conducted by an outside assessor (completed during the observation visit, if applicable). Two children's files from each classroom are randomly selected by the assessor, who then reviews the files for evidence of child observations (e.g., DRDP) and developmental and health screenings. For a program to receive credit towards the element, every file reviewed must exhibit the proper evidence. As an alternative to a file review, the assessor may review a program's centralized tracking system as evidence of child observations and developmental and health screenings. For a program to receive credit towards an element, the tracking system must demonstrate 100% compliance across all enrolled children. ERS and CLASS ratings of 3-5 require assessment by an external assessor. The costs of assessment are paid by the county-level QRIS Consortia.[61]

[b] The consortium has representatives from all counties and regions implementing a QRIS, including CSPP QRIS block grantees, Infant/Toddler QRIS block grantees, and the First 5 Impact Consortia. It is also supported by the State Support Team, which includes staff from the California Department of Education, Early Education and Support Division, and First 5 California.

A program's QRIS rating is valid for two years from the date of the final rating. Once a program receives its final rating, the program must develop a quality improvement plan to implement between rating periods. Each Consortium is responsible for monitoring programs to assure that they are continuing to meet the criteria for their rating. Re-rating within the two-year period may be required if a program experiences a change in its state licensing (i.e., a change of physical location), significant staff turnover, a new director, or a significant licensing violation.[62]

Consortia are required to report programs' overall and elemental ratings to the state on a yearly basis. Additionally, each Consortium is responsible for making program ratings available to the public as a requirement for receiving a First 5 IMPACT, CSSP, or I/T QRIS Block Grant (see below). Localities have flexibility in how they publicize the ratings, using determinants such as "Tiers" or "Stars" (i.e., one-star through five-star programs). Alternatively, levels can be combined to create a three-category rating system in which programs are designated as beginning, achieving, or advancing. Reporting methods developed within the county may also be used. Currently, the most common platforms for publicizing ratings are local Resource and Referral Agencies (R&R) and local QRIS websites.[63] The Department of Education is currently developing a statewide website for California. In many counties, however, ratings are not currently available to the public.

Financial incentives. Many programs participate because doing so gives them access to resources and supports. Most states also offer some type of financial incentive to participate in QRIS with the twofold purpose of encouraging more programs to be rated and motivating them to work to achieve high ratings. Financial incentives take many different forms and vary by state. Some of the most common types of financial incentives are tiered reimbursement subsidies (higher reimbursement rates to programs with higher QRIS scores), quality grants or bonuses, tax credits, scholarships, wage supplements, and facility loan programs. Some awards are one-time only; some are annual or renewable. Awards can be conditioned on advancement in the QRIS and can be intentionally focused on all levels or on the lower or upper levels of a QRIS.

Thirty states, not including California, currently offer tiered reimbursement subsidies associated with QRISs. Typically, programs rated at higher levels receive a subsidy of 5-20% above the base rate or a set dollar amount above the base rate.[64] In Washington, programs rated at levels 3, 4, and 5 receive subsidies of 4%, 10%, and 15% above the base rate, respectively.[65] In Oregon, programs rated at level 3 receive $54 per child per month above the maximum state subsidy level, and programs rated at levels 4 and 5 receive an additional $74 and $90 per child per month, respectively.

There is very little research on the effects of tiered reimbursement, but one study examined the effect in jurisdictions in which increased rates were conditioned on national (NAEYC) accreditation. The study found that the differences in reimbursement rates ranged

from 5 to 20%. The average reimbursement rate difference in states with a positive impact on applications for NAEYC accreditation was 15.8%, although NAEYC accreditation represents a higher bar than improving a QRIS rating.[66] There is some evidence from states with voluntary systems that the generosity of financial incentives correlates with participation: the higher the awards, the higher the participation.[67]

Tax incentives are also a popular form of financial incentive. In Indiana, for example, programs with high QRIS scores receive property tax exemptions.[68] Some states, such as Oregon, also provide financial incentives to parents who select a high-quality program for their children through child care subsidies.[69] California offers neither a tax incentive nor an incentive to parents as part of its QRIS.

With the current CA-QRIS system, some counties offer financial incentives through subsidy bonuses, mostly to subsidized preschool sites. The bonuses are used primarily to reward programs that achieve a rating of 4 or 5. Only some counties offer bonuses, and the dollar amount varies by county.[70]

How Well Does CA-QRIS Work as a Tool for Assessing Quality?

In December 2016, the American Institutes for Research (AIR) and the RAND Corporation released a report detailing the findings of an independent evaluation of California's QRIS. This study was conducted as a requirement for the RTT-ELC Grant and provides descriptive data about CA-QRIS implementation, the validity of CA-QRIS ratings, and a summary of quality improvement (QI) activities implemented by participating programs throughout the initial QRIS piloting period from 2012 to 2014.[71] In addition to the cumulative report, AIR and RAND released a descriptive, mid-pilot review of CA-QRIS in July 2013.

These two reports, discussed below, along with several other independent studies, provide an early assessment of whether CA-QRIS is providing accurate and valid assessments of early childhood education quality in the state and how the system is being used for quality improvement purposes. Study findings on QRIS validation in other states are also summarized below.

Do CA-QRIS scores vary? Among center-based programs rated as part of the CA-QRIS pilot, there was low variability in element scores related to structural quality (child assessment and screening practices, adult-child ratios, and staff qualifications) in centers, indicating that these elements may not differentiate centers.[72] The Child Observation element (i.e., DRDP) also did not differentiate programs. There was low variability in observational scores for FCCHs, but greater variability in structural characteristics.[73] Analyses showing low correlations among elements suggest that the element scores nevertheless capture unique aspects of program quality. The tiers did vary, as shown in the table below of the number of programs participating in 2016 that were rated at each level.[74]

Table 3. Number of Participating Programs at Each Tier

	Center-Based	FCCH
Tier 1	158	64
Tier 2	420	172
Tier 3	539	220
Tier 4	1027	419
Tier 5	219	89

At the time of the Rand and AIR study, California used a two-level block rating method; sites had to achieve all elements within a level before advancing to the next level. In a point-based system, sites earn points for each element and the points are added together to determine the overall rating. States use many different methods for assigning overall QRIS ratings, and the RAND and AIR report examined how different rating systems changed the distribution of CA-QRIS ratings across tiers. They concluded that California would increase the variability of QRIS scores by using an average element scoring system rather than a block-hybrid system. It is not clear, however, that greater variability would produce stronger associations with child outcomes.

Do CA-QRIS scores predict child outcomes? Based on the QRIS theory of change, a higher-rated program should provide children with a higher-quality experience than a lower-rated program, and children attending the higher-rated programs should thus outperform children in the lower-rated programs.[75] AIR and RAND tested this hypothesis using the CA-QRIS pilot data and found that children's outcomes in literacy, math, and executive functioning were not associated with program ratings when children's beginning-of-year scores were held constant.[76]

Similarly, QRIS scores have failed to predict children's academic and social outcomes in studies conducted in other states.[77] For example, there were no significant associations between Colorado's, Wisconsin's, or Indiana's QRIS ratings and any child outcomes, when controlling for family background.[78] Other states have reported evidence for QRIS ratings predicting at least one developmental domain, but not outcomes across multiple domains. In a study in Minnesota, for example, QRIS ratings predicted receptive vocabulary, but not emerging math, literacy, or social skills.[79] Missouri's QRIS ratings predicted children's socioemotional outcomes, but not their early reading or math skills.[80] One study of 673 public pre-K programs in nine states found only a few significant associations between composite QRIS scores and child outcomes. QRIS scores predicted pre-reading scores in two states and social skills in one state.[81] Language and math scores were not predicted by QRIS scores in any of the nine states.

One study used nationally representative data to examine relations between ECERS-R, a core assessment used in QRIS, and children's school readiness outcomes at age 5.[82] Findings showed that higher levels of quality did not relate to growth in academic, language and social-emotional functioning for children with more exposure to socio-demographic risk, controlling for an extensive set of covariates.

The weak associations between overall QRIS scores and child outcomes in California may be explained in part by the finding that scores were generally not associated with classroom instruction.[83] If QRIS scores reflected the quality of instruction, high-rated programs would be expected to have higher CLASS and PQA scores. But there was only one significant difference (between programs rated at Tiers 4 and 5) on one of the three dimensions (instruction) of the CLASS classroom observation measure. For the PQA observation measure, significant differences were found among Tiers 3, 4, and 5 on one dimension (adult-child interaction) out of four. The remaining five classroom dimensions assessed were not associated with QRIS tiers.

Despite the mixed evidence on QRIS scores' prediction of child outcomes, a few state QRIS models have been linked to child outcomes, although the associations are very small. North Carolina reports quantitative differences in child outcomes between programs with the highest and lowest ratings.[84] In Washington, children in higher-rated sites had greater gains from fall to spring in receptive language, expressive language, and fine motor skills.[85] Similarly, children in higher-rated programs in Virginia demonstrated significantly higher pre-literacy growth when accounting for home and community-level variables.[86] These models can potentially serve as examples for California as its QRIS system is revised to emphasize the most important dimensions of program quality.

In efforts to improve California's QRIS, careful attention needs to be paid to the specific elements of the system and to how scores are computed to ensure that the scores reflect children's experiences that produce positive development. Attention also needs to be paid to how well the elements of the system are aligned to the child outcomes of interest. In California, CLASS is the only variable that specifically includes instruction, and it does not include any items specifically focused on literacy or math instruction. Yet literacy and math skills are assessed in most studies of the effect of QRIS ratings on child outcomes and are strong predictors of later school success. The measure used to rate programs is not well aligned with the child outcomes that are assessed.

Do parents use CA-QRIS to inform care decisions? The requirement that programs publish QRIS ratings stems from the underlying theory that parents will use QRIS ratings to choose programs for their children. The theory is that QRIS will thus serve as an incentive to programs to participate in QRIS and to improve program quality to achieve high scores.

One study reported that programs that received low QRIS ratings experienced decreased enrollment, but only if they were in a competitive environment.[87] Aside from this one study, there is little evidence to support the assumption that parents use QRIS scores when selecting programs. Studies of parent consumption of QRIS ratings in Indiana and Kentucky showed that parents were mostly unaware of QRIS activities in the states.[88] The director of the QRIS National Learning Network states that "a lack of parent engagement in state ratings is the weakest link."[89] Additionally, when selecting early childhood programs, parent options are often limited by factors such as work schedule compatibility, convenience of location, and cost. For example, when parents in Washington state were asked about the most important factors when selecting their children's care, over 40% of parents selected proximity to the family home, while only 2.2% said the facility's QRIS was an important factor in their decision.[90] These other factors are particularly important in low-income neighborhoods, where parents lack affordable choices.[91]

Currently only reports of CA-QRIS summary scores are made public in California, and even the summary scores are only made available in some counties. The overall rating may not provide parents with the information they want. Although programs may have the same overall rating, their ratings for each element may be very different. Parents in focus groups desired a detailed report with ratings across elements, rather than a single summary score.[92] Providing detailed reports that include both the overall score and the rating at each level might could increase the utility of CA-QRIS ratings for parents. An increase in outreach to inform parents about what the CA-QRIS scores mean and how to use them might also increase the likelihood that parents will use CA-QRIS to inform child-care decisions.

Does CA-QRIS lead to quality improvement? Because the implementation of CA-QRIS is still relatively recent in California, no studies have yet examined whether programs' quality rating scores improve over time as a function of QI activities. Studies from other states, however, indicate that programs participating in QRIS generally do show improvements in ratings. In Indiana, about 20% of participating programs increased their rating by at least one level over six months, while 60% and 65% of programs in Minnesota and Oklahoma increased their rating by at least one level over one year and three years, respectively.[93] In an experimental study in Washington state the QRIS treatment group had significantly higher observed quality scores, but there was no impact of QRISD on the overall QRIS rating.[94] Findings from Florida indicate that programs tended to experience quality growth within the first or second year after their initial rating, but that quality improvements then tapered off.[95] Centers located in poor neighborhoods, however, tended to show decreases in quality over time as measured with star ratings, suggesting that programs serving low-income children may need additional supports to improve.[96]

All of these studies are limited in several ways. First, the studies do not include a comparison group, so it cannot be concluded that participation in QRIS *caused* increases in

quality. Second, the results are limited due to program attrition. Programs with lower scores are more likely to opt out of future QRIS ratings, leading to a sample with an overall higher average QRIS score.[97] One recent study of North Carolina's QRIS provides better evidence on causality. Using a quasi-experimental design, the researchers found that when programs received a lower rating, they showed significant improvement in their quality rating, primarily through increases in their environmental rating scale (ERS) score. The increase was only found for programs that were located near other centers and faced competition for enrollment. For programs without competition from nearby programs, a lower rating was not associated with quality improvement. This study also found that lower-rated programs were more likely to opt out of QRIS in the future.[98]

While these studies are promising, studies from other states are limited by their methodologies, and they use different approaches to QRIS. California would be well advised to invest in research on whether QRIS leads to quality improvement and if so, under what circumstances. Tracking the progress of programs will require the use of ratings that are comparable over time.

Conclusions

We summarize here considerations for future policy decisions related to QRIS in California.

Improving QRIS. Systematic research is needed to guide changes in California's QRIS to ensure that it is a valid assessment of the quality of children's experiences. Adjustments also need to be made to ensure that the QRIS is fair and applicable in family child care contexts.

County-based administration*.* California is one of the few states that has a local rather than statewide QRIS model. While this allows counties to modify the QRIS matrix to meet local needs, it also makes it difficult for the state to track quality in early childhood programs across the state or to make comparisons among counties.[99]

There are also disparities in participation rates among counties, which may be driven by differences in financial incentives.[100] Among states with a voluntary QRIS system, there is evidence that more programs participate in states that offer larger amounts of money to programs that achieve a high rating.[101] In California, financial incentives are determined at the county level, where resources vary, leading to discrepancies in incentive amounts across counties.[102] Careful study of the effect of financial incentives on participation and improvement could inform policy decisions at the county level or a state-wide financial incentive policy.

While there is value in flexibility, California might consider whether some of the policies currently created at the county level might be more efficient and better informed if they were made at the state level.

Voluntary participation. Compared to many other states, participation in CA-QRIS is relatively low, due to its voluntary nature and a general lack of financial incentives. As of September 2017, about 29% of center-based programs and 7% of FCCHs participated. Other states have implemented various policies to encourage participation, leading in a higher percentage of rated programs. For example, Illinois, New Hampshire, and Oklahoma report a 100% participation rate across all licensed center-based programs and FCCHs. In these states, all programs are automatically given a default rating of one "star" upon licensing, which is then adjusted when they complete the states' QRIS rating process.[c, 103] In Wisconsin, all programs receiving federal or state subsidies are required to participate in the state's QRIS; as of 2015, 82% of licensed center-based programs and 75% of licensed FCCHs had received a QRIS rating.[104]

Of the programs that have participated in CA-QRIS in California, most are publicly funded and are already considered to be relatively high-quality because they must meet Title 5 licensing standards.[105] There is no incentive for lower-quality programs to participate, especially given the possibility that advertising a low rating could lead to a decline in enrollment.[106] Thus, the programs that most need support for improvement may be the least likely to participate in a program designed to improve quality.

Currently QRIS is the primary tool for improving the quality of programs serving young children in California. Given the limited resources devoted to it and the low participation rates, it is at best a weak tool. Evidence from other states suggests that QRISs have some potential to improve quality and child outcomes. But for QRIS to effectively improve the quality of programs in California, it would need to be improved and required, or programs would need to be offered significant financial incentives, such as in the form of higher reimbursement rates to programs with higher QRIS scores.

Most of the California EC experts interviewed for this report cited low participation as a problem in California's QRIS. The interviews also highlighted many challenges to increasing participation in the QRIS. Most interviewees noted that current funding levels are not sufficient to substantially increase participation. Although many interviewees agreed that all programs and providers who receive state subsidies should be included in the QRIS, they also pointed out that the QRIS would need to become more flexible to accommodate different types of child care settings. For example, finding time to pursue professional development outside of work is more difficult for family child care and license-exempt providers, who tend to work longer hours than in centers. Consequently, access to professional development, such as providing centrally located training hubs with substitute child care, would be needed to make the QRIS more inclusive.

[c] Although note that "participation" includes programs that automatically received one star, whether or not they engage in quality improvement activities.

Parent choice. A fundamental goal of QRIS is to allow families to select programs based on systematic information on their quality. For CA-QRIS ratings to be effective in affecting parents' enrollment decisions, parents must have access to ratings that they can understand and to a variety of affordable programs of varying quality that meet their scheduling and other needs.[107] Program participation rates must also be much higher, so that parents can compare QRIS ratings. These criteria are not met for most families in California, which significantly limits the usefulness of QRIS as a tool for selecting early childhood education programs.

Desired Results Developmental Profile (DRDP)

One strategy for maintaining and improving the quality of early childhood programs is to use assessments of children's development to guide program instructional decisions. In California, the primary instrument used for this purpose is the Desired Results Developmental Profile (DRDP), designed to gauge the skill levels of children from infancy through kindergarten. Programs must use the DRDP to be licensed under Title 5 and to receive a rating of 4 or above in the QRIS (actually a 3, given that it is the only child assessment tool explicitly aligned with the California Foundations and Frameworks). Because it is currently the only tool that could be used to widely assess the state's progress in improving child outcomes (which is the ultimate goal of program quality improvement efforts), and because there is some evidence that it is not working effectively even as a formative assessment, we examine the value of this measure in some detail.

The DRDP was developed by the California Department of Education and aligns with the California Early Learning and Development Foundations and the Head Start Framework. It includes eight domains: approaches to learning/self-regulation, social and emotional development, language and literacy development, cognition (including math and science), physical development/health, history/social science, and visual and performing arts.[108] Teachers or caregivers rate children on specific items based on observations of children in the context of regular day-to-day activities. It is considered a formative assessment that can be used to inform instruction of individual children as well as in the aggregate to guide program improvement efforts.

The most recently revised DRDP is from 2015. There are several versions:

1. infant/toddler: 29 ratings in five domains for children from early infancy to 36 months, unless over age two years and seven months and in a preschool classroom;
2. preschool fundamental: 43 ratings in six domains, required of all preschool special education programs;
3. preschool comprehensive: 56 ratings in eight domains, for children aged 3-5 years;[109]
4. DRDP-K (previously referred to as the DRDP-SR): 55 ratings in 11 domains (including one domain for dual language learners in Spanish language and literacy development), to assess the progress of children during the transitional kindergarten/kindergarten years.[110]

Under Title 5, preschool programs must include an analysis of child evaluations using the DRDP in their annual self-evaluation report to the California Department of Education. However, there are no consequences for student DRDP scores for centers, teachers, or caregivers.[111] DRDP is also included in all California QRIS systems, and to receive four points on the child observation element, a program must use the DRDP twice a year and show evidence that the results are used to inform curriculum planning.[112] To receive five points, programs must use DRDPtech, which allows teachers and program administrators to access DRDP instruments and conduct DRDP assessments online.[113]

How is the DRDP implemented? The DRDP is usually completed over a two-week period, although teachers and caregivers are expected to consistently record observations and gather evidence. The child's primary caregiver or teacher is responsible for completing the DRDP, but she can consult with families and is encouraged to observe children in the context of family members. According to California State Preschool Program Requirements, the DRDP must be completed for each child within 60 calendar days of enrollment and at least once every six months thereafter.[114]

Programs are required to maintain DRDP records for five years.[115] For children identified as special needs, DRDP data are submitted to the California Department of Education's Special Education Division.[116]

What do we know about the quality and meaningfulness of the DRDP? For the DRDP to serve as a useful tool for improving instructional quality, it needs to be valid and reliable. To guide instructional decisions effectively, the assessment instrument should provide accurate information on children's skills in each of the various domains assessed. The evidence on the DRDP is mixed.

There are several ways to assess the value of a child assessment. One is to ensure that the ratings are in the appropriate order—that children do not demonstrate mastery of a higher rating before they demonstrate mastery of a lower rating. Another quality of a good measure is that all of the items designed to measure the same skill correlate strongly to each other. The DRDP and the DRDP-SR/K meet both of these requirements with good psychometric qualities and high reliability (internal consistency) among items assessing the same skill. [d, 117]

A third quality of a good assessment is that two people observing the same child give the same rating (referred to as inter-rater reliability). Only one study of inter-rater reliability was found; it included 71 pairs of teachers.[118] The two teachers agreed on the rating 57% of the

[d] Reliability for the DRDP preschool (2010) ranges across the subscales from .83-.96, with an average of .89, and for the DRDP-K from .83 to 90.

time, and were within one level 93% of the time, suggesting that teachers tended to rate children the same or close to the same.

The value of the DRDP in guiding instruction in particular domains depends on its ability to provide valid (discriminating) information on children's skills in each domain. For example, math instruction should be informed by ratings of children's math skills, and efforts to develop children's social-emotional skills should be informed by ratings on the corresponding dimension of the assessment instrument. High correlations among the subscales suggest that the DRDP, as implemented, has poor discriminant validity.[e] A significant correlation among dimensions is to be expected because the same conditions that support development in one area (e.g., literacy) typically also support development in other areas (e.g., math). But correlations as high as those found, even though disattenuated (corrected for measurement error), suggest that teachers' ratings were somewhat affected by their overall impressions of children, which diminishes their value as measures of specific skills. A recent study examining the factor structure of the DRDP provides additional evidence for this interpretation: three domains from the DRPD could be measured as one underlying factor for capturing overall school readiness rather than as separate social-emotional, cognitive and language and literacy skills.[119] These findings suggest that the DRDP provides a global assessment of children, but does not differentiate skills in particular domains.

A valid assessment is also associated with similar assessments. For example, the DRDP ratings of children's math skills should be significantly correlated with children's math skills as assessed by another instrument. Analyses show that DRDP scores are significantly correlated with direct assessments of the same skill. One study of the DRDP examined associations between DRDP ratings and an independent direct assessment (Battelle Developmental Index, BDI-2). The study showed significant correlations between the two assessment instruments.[120] But these analyses also revealed very low discriminant validity. The DRDP subscales were not more highly correlated with the similar direct assessment subscale than with dissimilar direct assessment subscales. For example, the social-emotional development subscale of the DRDP correlated more highly (.50) with the cognitive ability subscale of the BDI-2 than with the BDI-2 Personal-Social subscale (.40). A study examining associations between the DRDP-SR and various direct assessments of academic skills (e.g., expressive and receptive vocabulary, math and literacy development) revealed a similar problem with discriminant validity. For example, the DRDP-SR math ratings were just as highly correlated with the literacy measures (in some cases more highly) than were the DRDP-SR language and literacy ratings.[121] A small study of two preschools in one California district (Milpitas) similarly found weak alignment between DRDP ratings and scores on similar dimensions of literacy and math skills assessed directly using the Children's Progress Academic Assessment (CPAA).[122] Finally, recent work examining the discriminant validity of the DRDP found that measures of distinct social-emotional skills (i.e., children's facial expression recognition, emotion scenario recognition, and executive

[e] The disattenuated correlations among the five DRDP-SR subscales (Development of Self and Social Development, Self-Regulation, Language and Literacy, Mathematical, and English Language), for example, are very high, ranging from .52 to .83, with an average of .71.

functioning) correlated similarly across the separate DRDP domains for academic and social-emotional functioning, even controlling for the high statistical overlap across the DRDP subscales.[123] The lack of discriminant validity casts some doubt on the meaningfulness of the individual DRDP subscales.

Another strategy for assessing the validity of an instrument is to determine how well it predicts later skills. California has not collected any evidence on whether the DRDP or DRDP-K predicts students' achievement in later grades. We were able, however, to examine associations between DRDP scores in the spring of children's last year of preschool and their literacy scores on a direct literacy assessment administered in first grade in a medium-sized California district serving a diverse population of children. The analyses revealed some evidence of predictive validity. DRDP language and literacy scores from preschool were significantly correlated with literacy skills assessed in first grade, although DRDP scores in all other dimensions (e.g., math, self- & social, health) were just as highly correlated with later literacy skills.

Questions about the value of the DRDP have also been raised by a study of California's QRIS. An independent evaluation of California's Race to the Top-Early Learning Challenge found a negative association between the QRIS element based on the DRDP and child outcomes that were assessed with standardized direct assessments.[124] To receive four points on the child observation element of QRIS, the DRDP must be used twice a year; to receive five points, the DRDP ratings must also be uploaded into DRDPtech. Children in programs scoring 4 on this element performed significantly better in independent assessments than children in programs that scored 5.

In summary, the evidence suggests that the DRDP can serve as a holistic assessment of children's developmental progress, but there is no evidence that it differentiates progress in different domains. The problem may lie more in the measure's use, discussed below, than in the measure itself, which clearly delineates the dimensions represented in each of the subscales. Until there is evidence that programs use it effectively to assess children's skills in each of the domains, its use as a tool for improving instruction is limited.

Is the DRDP used as a formative assessment to inform instruction? Although the stated purpose of the DRDP is to inform instruction and program development, there is little evidence that it is used this way, or that it actually leads to more appropriate or better instruction. A substantial investment has been made to develop these instruments, and a significant amount of time is required for teachers to complete the ratings. In many programs, teachers rate as many as 18 children two to three times a year, and in the Milpitas study, teachers reported spending an average of 31 minutes to complete the assessment for each child.[125] Our informal conversations with teachers suggest that many do not believe that they are sufficiently trained to use the DRDP, or that they are given the time they need to observe children and make valid judgments. Training appears variable. The study of the two Milpitas schools found that

although teachers had an average of over eight years of experience using the DRDP, only a few had received formal training.[126] But in a dissertation study of 20 preschool teachers (10 Head Start and 10 state preschools) in Riverside, all of the teachers reported having some training, and most found the WestEd resources helpful. They complained, however, that there was insufficient time without direct responsibility for children to use the DRDP effectively enough to inform practice.[127]

We found only one systematic effort to examine how DRDP scores were used to inform practice. In the Riverside study mentioned above, teachers in two preschool programs were interviewed about their use of the assessment tool. In these two schools, supervisors held monthly meetings or had one-on-one conversations with teachers to help them interpret the DRDP ratings.[128] Most of the teachers used the results to plan whole-group activities or to create leveled groups for instruction. The results were rarely used for individualization. Administrators have mentioned informally that they appreciate the opportunity to focus their teachers' attention on individual children.

Others informal interviews, however, have revealed strongly negative views of the DRDP. A comment from Scott Moore, Executive Director of Kidango, which has a staff of about 400 educators, was illustrative:

> In my experience, the DRDP is at the top of the list of complaints from teachers. They claim that it doesn't provide useful information, it takes them away from interacting with children, and it overburdens them with paperwork…. Teachers wonder why we use an assessment that takes hours to do on each child, and provides unreliable data.

There is clearly a need for some systematic evaluation of how the tool is used in the field and of practitioners' views of its value.

What are the options for assessing student development? There are longstanding debates about how to assess young children, mostly about the use of an observation strategy, such as that used by the DRDP, versus direct, one-on-one standardized assessments of children. Observation measures such as the DRDP have the advantage of basing information about children's skills on their behavior in a familiar, meaningful context. But discriminant validity is a common problem in observation measures. Observation tools also require a great deal of teacher training and time. Comparisons across settings are problematic because settings vary in the opportunities they provide for teachers to assess skills. The validity of literacy and math skill ratings, for example, depends on whether and how literacy and math are taught. If math is not part of the regular instructional program (as researchers have found to be true in many preschools[129]), teachers may not have many opportunities to assess children's math skills with naturalistic observations.

A measure of kindergarten readiness that has been used in a number of California counties in the Bay Area is the Kindergarten Observation Form (KOF) developed by Applied Survey Research. It is briefer than the DRDP-K, assessing 24 skills on four dimensions (academics, self-regulation, social expression, and self-care and motor skills). The measure includes items based on both teacher observations and direct interactions with children. It has good psychometric qualities, including inter-rater reliability.[130] There is some evidence to suggest that its discriminant validity might be better than that of the DRDP. For example, only the academic subscale consistently predicts academic achievement in third grade.[131] The measure also has the advantage of combining observations with direct individual child assessments. This KOF was not, however, specifically designed to be aligned with the California Early Learning Foundations, and is only appropriate for four- and five-year-olds.

Direct assessments have the advantage of uniformity and can be conducted by someone other than the classroom teacher. They also do not depend on observing evidence of specific skills in a natural setting. But direct assessments have also been criticized for inauthenticity, especially for failing to assess accurately the skills of culturally different children, and for providing a very narrow and incomplete picture of children's skills. Concerns have also been raised about making young children feel anxious or incompetent.[132] Regardless of whether they are used as the primary tool to assess young children's progress in California, direct assessments should be used intermittently to check the validity of children's DRDP ratings.

Observation measures are the norm across the states. In 2014, 25 states implemented assessment of children at kindergarten entry.[133] Most states used observation instruments similar to the DRDP. In fact, six states used the DRDP, although the Teaching Strategies GOLD was the most commonly used instrument (13 states). Some states, however, use direct assessments, in many cases with computer-adapted tools. For example, Florida and Mississippi use the STAR Early Literacy assessment; Iowa uses the Formative Assessment System for Teachers (FAST); and Oklahoma uses the Early Literacy Quick Assessment. The FAST is an option in Minnesota. A few states use a combination of teacher observation and direct assessments (e.g., Kentucky, Ohio, & Texas).

Conclusion. The DRDP has many good qualities. But the lack of evidence for discriminant validity suggests that the individual subscale scores are not useful. We suspect that the problem lies less with the instrument than with the amount of training teachers receive and the time and opportunities they have to rate children. As it is currently used, the DRDP appears to serve as a valid assessment of children's general developmental level, but this could be achieved with a substantially pared-down version of the measure. A serious investment in training teachers in

its use and providing them with time to rate children is likely to be necessary for it to serve as a useful tool.

Another recommendation to improve the usefulness of the DRDP as a tool for formative assessment is to add structured, scripted directions for interacting with children that teachers would use to assess some of the literacy and math skills on the current DRDP. This would provide some of the benefits of a direct assessment without losing the authenticity of the observation approach for most of the items. A more standardized direct assessment of literacy and math skills is likely to yield more valid information than observations because observations may or may not give teachers opportunities to assess certain skills in individual children.

In addition, there is very little evidence on whether the DRDP is used, let alone used effectively, to achieve the stated purpose of promoting informed instructional and program decisions. Research is needed on how children's ratings are used to inform quality improvement, and what kind of support and training teachers need to use ratings effectively to support children's learning.

Finally, California does not aggregate DRDP or other preschool or kindergarten entry assessments and thus has no way of tracking progress in its efforts to improve the quality of programs for young children. California also has no strategy in place for tracking children's learning from early childhood through the second grade. And in third grade, when the state student assessment program commences, children are assessed only in reading and math. In some states (e.g., Louisiana, Mississippi, North Carolina) kindergarten entry assessments are part of a K-3 assessment system. Maryland will have such a system in 2018-19. An ideal assessment system is continuous from pre-K through at least second grade, articulates with the assessment used in third grade and beyond, and involves a combination of teacher observations and direct assessments. The goals of such an assessment system are to provide teachers with information about children's progress that can be used for planning instruction, to identify children who may be in need of early intervention, and to allow schools, districts, and the state to assess the effectiveness of policies and programs.

Quality Improvement Strategies

California provided resources and supports for improvement long before CA-QRIS was created, although quality improvement (QI) has become increasingly connected to QRIS. Here we discuss QI efforts in general, regardless of whether they are linked to CA-QRIS.

In California, QI supports include a diverse array of programs and services delivered through a complex network of initiatives, programs and agencies. This chapter describes (1)

how QI supports work in California; (2) their accessibility; (3) the effectiveness of QI in supporting program quality; and (4) what has been learned about best practices from research and other states. Finally, we suggest strategies for improving QI supports in California and identify the types of data needed to support future QI efforts.

How Do QI Supports Work in California?

QI takes many different forms, including but not limited to coaching or mentoring, participation in non-credit courses or workshops, incentives for teachers and administrators to complete credit-bearing college courses (i.e., tuition subsidies, textbooks, and increased wages), and peer support structures (i.e., professional learning communities).[134] While there is broad consensus regarding the importance of QI supports, we know little about how to implement QI effectively in terms of content, delivery mechanism, or dosage and intensity, or about how variation in different features may impact program quality.[135] Further, California faces unique challenges in delivering QI supports due to the size and diversity of the EC population in the state and the inconsistent program quality standards across ECE programs.[136]

Most QI supports are funded by a combination of federal and state grants through the California Department of Education (CDE) and the Quality Counts California QRIS consortium.[137] While counties and cities also support QI efforts, there is considerable variation in the sources of funding (e.g., private philanthropy, local taxes) and in whether and how these local funding streams are braided with federal- and state-level funding for QI activities. Some districts also use LCF and Title I funds to support preschool and improve alignment with the elementary grades. We focus here on funds administered through the state, acknowledging that there are other sources of funding and support for early childhood education QI in California.

QI supports range widely in terms of their objective (e.g., infant/toddler care, special needs inclusion, licensing compliance) and scale. Some supports are available to all types of ECE programs (e.g. transitional kindergarten, state preschool programs, license-exempt care), whereas others are unique to specific ECE providers (e.g., family child care) or populations (e.g., infant/toddler, special education, preschool).[138]

Agencies that typically receive funding for delivering QI services include:

- County Offices of Education
- California Child Care Resource and Referral (R&R) Networks
- Local Planning Councils (LPCs)
- County First 5 Commissions
- School districts

In general, QI supports can be organized according to several mechanisms:

1. Direct provision of formal and informal education, as well as training opportunities (e.g., degree programs, courses, workshops, coaching, and seminars);
2. Financial incentives (e.g., scholarships and stipends) designed to increase demand for additional professional development or retain qualified workforce members;
3. Indirect investments in the workforce that are designed to improve the quality of ECE education and training by (1) shaping the content of curricula for education and training programs and (2) training those who deliver the content (i.e., the "train the trainers" model).

QI activities tend to focus on the following topics:

1. Health and safety
2. Nutrition and physical activity
3. Early learning and development guidelines
4. Leadership and coordination.

A 2015 report from the Opportunity Institute on local approaches to raising quality in California identified trainings (55%), stipends (21%), and financial support for trainings (9%) as the most commonly accessed QI supports.[139] A separate report that examined QI supports in the context of QRIS found coaching and mentoring activities to be the most prevalent, both in California and in other states.[140] According to a California survey of 306 teachers in 234 classrooms at 142 sites, in 2014-15 82% of the teachers had received coaching and mentoring, 72% had attended workshops or training, 57% had experienced peer support activities, and 54% had taken credit-bearing courses.[141]

A review of county applications for 2016-17 CA State Preschool (CSPP) QRIS Block Grants (see below) revealed that the most frequent proposed use of funds for quality improvement purposes was coaching, mentoring, and technical assistance (21 of 28 counties). Providing incentives and grants for providers below Tier 4 was the next most common proposed use (18), followed by classroom supplies (14), training on quality measurement tools (13), stipends and professional opportunities (13), data collection and reporting, (6) and early education consultants (6).[142]

Funding. The primary sources of current funding at the federal and state levels for QI supports in California are summarized in the table below.

Table 4. Primary Sources of Funding

Source	Purpose	Amount
CA State Preschool (CSPP) QRIS Block Grants	Proposition 98 funding allocated to the CDE for activities that support and improve quality, as well as assess quality and access for CSPP sites	$50 million per year (2017-18)
Federal Child Care Development Block Grant (CCDBG)	The CDE receives funding from the CCDGB to provide child care services to families that meet certain income and need criteria. California is required to set aside a portion (10% in 2017-18) of CCDBG for projects designed to improve the quality of child care. Three percent ($22 million) is dedicated to activities that benefit infants and toddlers; the remaining 7% ($56 million) is not restricted to a particular age group.	$78 million per year (2017-18)
Infant/Toddler QRIS Block Grant	The CDE receives funding to provide training and technical assistance (T&TA) and resources to help infant and toddler care providers meet a higher tier of quality as determined by their local QRIS Rating Matrix.	$24 million (FY 2015-18)
First 5 Improve and Maximize Programs so All Children Thrive (IMPACT) Grant	First 5 California funds ECE initiatives with Proposition 10 tobacco tax revenue. These efforts include First 5 IMPACT, which supports county-led quality rating and improvement activities through Statewide T&TA.	$190 million (2015-2020)
California Transitional Kindergarten Stipend (CTKS) Program	A grant secured in the 2014-15 state budget supplements existing efforts and investments that benefit Transitional Kindergarten Teachers and Title 5 CSPP teachers. CTKS funds are for educational and professional development expenses (e.g., registration costs and tuition) related to early learning. First priority is given to transitional kindergarten teachers, and then preschool teachers.	$15 million (2015-2020)

In addition to these state and federal sources, in FY 2015-16, First 5 Consortia contributed nearly $32M in matching funds to support their local QRIS models in the form of cash, in-kind, or donated materials.[143]

California currently supports about 30 QI programs through the CDE. A complete list of the programs and a description of their service and funding level can be found in Appendix B. The 2017-18 QI draft budget report from the CDE showed the following breakdown of Federal Child Care Development Block Grant funding across QI program types:[144]

- Almost half (43%) of the CCDBG 10% set-aside will be used for training, technical assistance, and professional development (PD) activities, and financial aid for ECE teachers to take additional classes or to support the training of students in ECE programs.
- About one-third of the funding is allocated for leadership and coordination to support 57 R&Rs (located in every country) that provide free services to parents (e.g., information on their child care options) and provide technical assistance and reimbursements for health and safety trainings to child care providers.

- The remaining quarter of the funding is used to support activities such as licensing enforcement, development of early learning resources, and local planning activities and evaluations of QI supports.

As of 2017-18, the CDE also requires that a large percentage of QI efforts (about 55%) be prioritized for QRIS continuous improvement pathways, which are differentiated by the three core areas of the QRIS: Core 1: Child Development & School Readiness; Core 2: Teachers and Training; and Core 3: Program and Environment.[145]

CA-QRIS is currently funded through state block grants (described earlier in this chapter), the largest of which is set to run out in 2020. The CSPP QRIS Block Grant and First 5 IMPACT grant are intended to align with each other to serve the full spectrum of local and regional QRIS efforts. For example, the CSPP QRIS Block grants support quality in the CSPP, whereas the First 5 IMPACT funds support QI in other program types, such as licensed child care centers, licensed FCCHs, and license-exempt providers. Of the 27 million allocated for statewide T&TA from the First 5 IMPACT Grant, the majority (88%) is designated for CA-QRIS implementation support and statewide training and coaching. The remaining funds are used for assessor management, workforce development, improving adult-child interactions, and coaching.[146]

There are sustainability concerns related to funding, as participation rates continue to rise. These concerns include the need for sustained funding for financial incentives and the need to obtain enough trained observers to administer classroom observations, among others.[147] To address these concerns, several counties have formed regional QRIS partnerships and pooled their resources. For example, Alameda, Contra Costa, Santa Clara, Santa Cruz, San Francisco, and San Mateo counties have formed the Bay Area Quality Early Learning Partnership to share resources and minimize costs through efficiency.[148] Opportunities for creating cross-county partnerships, however, are more limited for rural counties.[149] In interviews with ECE experts, many interviewees cited cost as a barrier to improving quality within the ECE system and suggested that public funding would need to be increased to better support QI efforts in the state. As noted by one interviewee, the funds disseminated through line items in California's QI plan become small pots of money that are just "a drop in the bucket" at the county level.

Access to QI Supports in California

Coordination across state-level and local supports. Many state-funded QI activities are delivered through a network of state- and county-level supports.[150] Each county has a local Child Care and Development Planning Council (LPC) that is responsible for identifying areas of unmet need and coordinating between local support entities and child care providers. The CDE also contracts with other entities to operate certain programs locally. For example, the California Preschool Instructional Network (CPIN) provides statewide PD, technical assistance,

and support to preschool programs and administrators through the 11 regions of the California County Superintendents Education Services Association. In California, local R&R agencies are also responsible for carrying out activities that support center-based, family, and license-exempt child care providers, such as recruiting and training child care providers and offering technical assistance to enhance child care provider skills.[151] All services offered by R&Rs are free to child care providers and parents. In a 2014 evaluation by WestEd, the majority of R&Rs (88%) reported having at least one partner (e.g., First 5 Consortia, public colleges and universities, CPIN, or LPCs). The type of entity that R&Rs partnered with depended on local child care capacities (the number of licensed slots).[152]

Despite these partnerships, there is evidence that better coordination is needed across state and local agencies to improve the delivery of QI supports. Coordination problems were mentioned in a recent analysis of QI activities in California by the Legislative Analyst's Office.[153] For example, teachers can often access similar trainings across multiple support agencies, including LPCs (using stipends from the AB 212 Child Development Staff Retention Program), R&Rs, or Quality Counts California QRIS consortia. There is currently no system in place for tracking whether these trainings overlap or how they are being accessed. While the CDE collects some data on the child care providers who participate in statewide training, the Quality Improvement–Professional Development (QI-PD) Report it produces does not include data on whether participants have access to similar trainings through local entities. There may, therefore, be inefficiencies in supports for early childhood educators that result in some providers having access to more support than they can use, while others have insufficient access.

Further, we know that local entities may also face challenges in providing supports. For example, in the 2014 evaluation of R&R services, R&Rs reported that they had some difficulty providing PD to child care providers. The most common challenge they reported concerned decreases in funding and the subsequent reductions in staffing.[154] The inconsistency in funding from year to year made it difficult for agencies to plan.

Variation in QI access across ECE providers. Access to QI opportunities depends in part on eligibility rules and priorities for particular programs. The CDE sets rules for different programs specifying eligibility for participation. For example, teachers who are employed in state-contracted settings have priority for participating in training on child assessments; other teachers can participate only if additional space is available.[155]

Furthermore, QI supports are not distributed equally among ECE providers.[156] QI funding disproportionally benefits contract-based child care providers in 2017-18, since 28% of training and financial aid is restricted to contract-based providers and an additional 37% of funding is prioritized for child care providers who participate in QRIS QI activities, most of whom are also contract-based preschool providers. Staff in programs that participate in CA-QRIS have particularly high rates of involvement in QI activities.[157] In a descriptive analysis of QI

efforts among 170 center-based programs that participated in the CA-QRIS pilot, 80% of staff reported receiving either coaching or mentoring support. QRIS-participating programs also reported participating in non-credit based workshops or trainings with high (over 70%) frequency. Participation in peer supports and credit-bearing courses was less prevalent. The report concluded that while QI efforts in the context of CA QRIS are "largely being designed and implemented in a thoughtful and strategic manner, using evidence-based strategies and practice, these supports only benefit a small percentage of ECE providers in the state."[158]Further, a new report that analyzed how ECE programs operate at the county level highlighted a growing concern that certain subsets of preschool teachers (i.e., transitional kindergarten and special education) were not able to access early childhood-specific QI activities.[159]

Contract-based providers are held to the higher Title 5 quality standards, whereas voucher-based contractors must only meet Title 22 standards for health, safety, and staff. Voucher-based providers care for the majority of children aged 0-5 (i.e., nearly 75% of infants and toddlers and 25% of preschool-aged children). This means that California provides more resources to the child care providers who are already required to meet higher standards and who serve a relatively small segment of the early childhood population.

In addition to the eligibility-related barriers to participation in QI activity, there are logistical barriers. In the 2014 evaluation of R&R services mentioned above, the second most common challenge in delivering services concerned circumstances surrounding child care providers, such as long distances between providers and R&Rs, lack of technology, and poor alignment between providers' hours of operation and R&R training schedules.[160]

The lowest participation rates in state-level QI programs are for family child care and license-exempt providers. The QI-PD report from 2014-15 indicates that only 16% of licensed FCCH providers participated in QI PD training, compared to 77% from child care centers.[161] Only 1% of participants reported license-exempt employment.

A 2015 report on license-exempt caregivers in California indicated that these providers face many barriers to accessing improvement support, including cost, time, language, and awareness.[162] Interviews with license-exempt caregivers revealed that many did not know of the availability of child care subsidies and had not tried to access QI supports. Data from the CDE QI-PD report suggest that even the license-exempt caregivers who are part of the formal child care system are not accessing QI supports, possibly for some of the same reasons as unsubsidized informal caregivers.

There is also evidence to suggest that all early childhood educators face barriers to accessing certain types of QI supports. In a review of research on PD, lack of time was mentioned frequently in interviews with practitioners as a barrier to QI efforts.[163] The K-12 system typically gives teachers the summer off and often offers the option of substitute

teachers or provides days set aside for PD during the school year. In contrast, many child care settings run all day and all year long, without similar supports for participating in PD. Further, early educators typically do not receive compensation for professional development, although state preschool staff are more likely than private child care providers to be paid for professional development.[164] In a recent survey, ECE site administrators in Alameda county reported that over half of ECE staff in public or private preschool settings (i.e., Head Start, publicly and privately funded Title 22 licensed centers, and Title 5 centers) are consistently paid for required professional development or training, but this is not the norm.[165]

How Effective Are QI Efforts in Improving Quality?

Although the state conducted program evaluations of various QI supports from 2009 through 2016, these studies rarely evaluated program effectiveness. Rather, QI evaluations in California have largely provided descriptive information about how funds were used along with participant self-reports of satisfaction with the program quality and usefulness. Looking more broadly at research on early childhood education QI strategies, there is little rigorous research examining causal links between QI supports, program quality, and children's developmental outcomes. But some research indicates three categories of QI activities that can be used to guide decisions about how to best use resources: 1) training and PD, (2) coaching and mentoring, and (3) financial aid incentives to complete credit-bearing college courses. The following chapter summarizes evidence for each of these three categories of QI supports, based on program evaluations of QI supports in California and evidence from other states.

Professional development. In this chapter, we review evidence on the effectiveness of PD that is administered to a group of early childhood education program staff through workshops or professional meetings and does not result in the accrual of higher education credits.[166]

Program evaluations of PD in California. While the Early Education and Support Division in the California Department of Education offers a number of opportunities for practitioners to continue to develop their knowledge and skills, the PD requirements are minimal. California Title 5 teachers and directors must participate in 105 hours of PD to have their permits renewed after five years.[167] California is not out of sync with other states in its requirements for center-based child care. Currently 23 states require fewer than 15 hours of annual training for teachers in licensed centers.[168]

Program evaluations of PD opportunities in California offer limited evidence on the effectiveness of these supports. To our knowledge, only one QI program in California, the Program for Infant/Toddler Care (PITC), has been evaluated through a randomized controlled trial to measure the impact of on-site consultation models of caregiver training on child development and program quality.[169] In the PITC program, trainers work with child care programs to develop a schedule of 64 hours of training and 40 hours of technical assistance,

which are delivered over a 10- to 18-month period (i.e., a minimum of 4 hours of training or technical assistance per month). The course was delivered to individual child care centers from which at least four staff members and a director participated, as well as to small groups of family child care providers. The findings showed no significant impact of PITC on child outcomes (i.e., cognitive language scores, behavior) or program quality (i.e., global program quality, staff-child interactions) within an average of 23 months after random assignment. However, an analysis of implementation revealed that the intervention was not fully implemented or was not implemented with full participation. Further, one-quarter of the children enrolled in the treatment programs dropped out before or within six months of the start of the program or attended treatment programs that had initially agreed to participate in the intervention (and thus were considered in the PITC group) but did not. The implementation problems of this study underscore the challenges of evaluating an intensive, long-term intervention in a large number of community child care programs.

Another example of an evaluation is a study done in Santa Clara County in which the mean number of hours of PD preschool teachers received were found to strongly and consistently predict children's scores on a kindergarten readiness assessment.[170] A 2014 evaluation of the California Preschool Instructional Network (CPIN) employed a mixed-methods approach (i.e., retrospective surveys, interviews, and observations of trainings and classrooms) to provide an understanding of the efficacy of the content and implementation of CPIN's PD and technical assistance. Participants in CPIN's PD and technical assistance were more likely to use teaching strategies that reflected content from the state's early learning framework (i.e., Preschool Learning Foundations and Curriculum) and that supported dual language learning. While this evaluation offers some information on the effectiveness of the QI supports offered through CPIN, the generalizability of the findings is limited, due to possible selection bias (i.e., the CPIN leaders selected agencies and sites for observations and interviews) and small sample sizes for observations and interviews.

In contrast to the positive findings in the Santa Clara County and CPIN studies, a 2016 evaluation report by AIR found no significant associations between participation in the trainings that were connected to participation in QRIS and children's developmental outcomes.[171]

While there is limited evaluation data on the effectiveness of formal ECE professional development programs in California, we know even less about the quality of informal trainings that are offered through local R&Rs, LPCs, and First 5 county commissions.[172] These trainings tend to be more ad hoc and vary widely in terms of focus, audience, and duration. For example, the training may be intended for all types of providers or targeted towards specific providers in centers, licensed FCCHs, or license-exempt home-based care. The trainings are typically short (i.e., a few hours) and may be one-time offerings or part of a series. Since these offerings are locally sponsored and funded, there is no systematic effort in place to assess the effectiveness

of these programs in terms of the level of participation, quality of content, or qualifications of the trainers.

Research on PD in early childhood education. Although it is not extensive, there is some knowledge about the most effective PD strategies to support the development of California's EC workforce skills. Reviews of research on PD for teachers in mostly center-based programs have identified the following characteristics of high-quality PD:[173]

- Involves skillful leaders who develop capacity and create support systems for professional learning;
- Incorporates a variety of sources and types of student, educator, and system data to plan, access, and evaluate professional learning;
- Uses models of effective practice to provide a clear vision of what best practices look like and creates links between early educators' knowledge and practice;
- Occurs collectively in job-embedded contexts, with teachers in the same classrooms or schools participating together to create communities that foster positive change in the culture and instruction of their grade level, department, school and/or district;
- Incorporates active learning to directly engage teachers in designing and trying out teaching strategies, as well as allowing them to engage in the style of learning that they design for their students;
- Integrates theories, research, and models of human learning to achieve its intended outcomes;
- Provides teachers with adequate time to absorb new strategies and change their practice;
- Educators know how to use child assessments and interpret the findings to guide professional practice;
- Activities are aligned with the organizational context and existing state or local early learning standards;
- Activities offer coaching and expert support about content and evidence-based practices that are tailored to teachers' individual needs;
- Includes time for teachers to reflect and solicit feedback in order to make thoughtful changes to their practice.

The review of research on PD conducted for the Institute of Medicine's *Transforming the Workforce* report resulted in similar conclusions.[174] This report suggests the value of professional "learning that is on-going, intentional, reflective, goal-oriented, based on specific curricula and materials, focused on content knowledge and children's thinking and situated in classrooms" (p. 396). The report states that professional learning activities need to focus on deep conceptual understanding as well as pedagogical knowledge of the subject matter. As an example, it mentions that studies of PD in the teaching of math to young children have demonstrated the benefits of teachers' learning about children's typical math learning trajectories.[175] The report adds that training works best when it includes in-class coaching;

promotes risk taking, sharing and learning from peers (e.g., peer study groups or networks); and includes active learning that involves teachers in conducting and evaluating subject-specific experiences and activities for children. The report also points out the importance of ensuring that all professional learning activities are interconnected and consistent in content and approach.

Another review focusing specifically on effectiveness of short-term (30 hours or less), face-to-face PD events found positive effects associated with the following design features: [176]

- Sufficient time based on topic complexity;
- Use of learning objectives;
- Alignment with participants' training needs;
- Demonstration of desired behaviors;
- Opportunities for participant practice;
- Group discussions;
- Pre-work and homework;
- Active learning tasks that require cognitive processing;
- A participant-centered setting;
- Follow-up support to promote transfer of learning.

Evaluations of PD programs have yielded mixed findings. A review of PD for early childhood educators in home-based programs—including on-site technical assistance, peer support, and PD—showed some evidence of improvements in care quality, but no effect on child outcomes.[177] But few of the 96 initiatives they examined had a formal evaluation, and only four of them used random assignment to treatment and control groups.

A recent meta-analysis of PD interventions in preschool settings concluded that teachers who experience intentionally designed and high-quality PD can make meaningful changes to their teaching practice, which in turn relate to improved outcomes for children.[178] This analysis of PD interventions for EC educators showed, for example, improvements in classroom quality, adult-child interactions, and child behaviors, as well as children's phonological awareness and alphabet knowledge.[179] The review, however, also cited examples of well-designed and intensive PD interventions that did not significantly impact teaching practices or child outcomes.[180]

PD impacts also tend to be small across studies, with larger effects on classroom or teacher-level outcomes than on child-level outcomes.[181] A recent meta-analysis of quasi-experimental studies showed a medium PD training effect on process quality (e.g., learning materials, daily structure learning activities, interactions) and a small effect at the child level.[182] Although effects on children were modest, analyses showed that the effects on child outcomes were substantially explained by the effects on classroom quality ratings.

Evaluations of state-based preschool programs demonstrate the challenges of delivering PD programs on a large scale.[183] A recent study examined the impact of Ohio's Assessing Preschool Professionals' Learning Experiences (APPLE) project, which included an intensive 30-hour course that focused on teaching practice and on early educators' knowledge, beliefs, and practices. Teachers who were randomly assigned to take the course or the course-plus-coaching supports showed few changes in their knowledge or practice over an 18-month period. Further, a recent evaluation of QI activities among Iowa's early childhood education and the association between those activities and ratings on the state's QRIS found mixed results.[184]

A few PD interventions that focus specifically on students at risk of poor developmental outcomes have shown positive effects of PD. One study showed a positive impact of educators' participation in an online course (i.e., videos of model lessons, interactive message boards, peer support groups) on language and literacy development for a sample of at-risk preschoolers.[185] Another study showed that participating in a PD intervention to promote language and literacy skills for preschool children in general and Latinx dual language learners in particular improved teachers' language and literacy practices. Outcomes assessed in Spanish showed significant gains in children's phonological awareness and rhyme matching. Given the socio-economic and ethnic diversity of children 0-5 years in California, these findings are encouraging.

Summary. Evaluations of California's PD programs are disappointing, but there are too few of them and those that have been conducted are not sufficiently rigorous to draw conclusions. Research on PD is not extensive and has yielded mixed findings. But studies suggest that PD can have positive effects on both teaching and child outcomes.

Several consensus reports based on both research and expert opinion provide reasonable guidance until more definitive research is available. For example, most experts recommend on-site PD that is woven into teachers' everyday practice rather than the one-time PD programs delivered outside teaching sites or by people disconnected from the sites that are most common in California and elsewhere. By working at the program level, QRIS is well positioned to implement PD that is part of a collective, whole-program improvement effort, but this approach is recommended for programs regardless of whether they are participating in QRIS.

Coaching. In this chapter, we review evidence on the effectiveness of coaching and mentoring, which refer to individualized task-oriented PD strategies that are conducted one-on-one with staff, usually at the provider's site.[186] Coaching falls under a broader approach in ECE training referred to as relationship-based professional development, in which trainings are designed to establish relationships between more skilled and less skilled members of the ECE workforce.[187]

Program evaluation of coaching and mentoring in California. To date, only one study has evaluated the effectiveness of coaching in California.[188] A recent evaluation by AIR and

RAND assessed QI efforts among 142 center-based programs and FCCHs that participated in the CA-QRIS pilot. This descriptive analysis examined the associations among QI participation, program quality, and children's developmental outcomes. Of all QI activities, coaching most consistently predicted program quality improvement and improvement in child outcomes. Sustained coaching over time appeared to improve children's outcomes, and the number of hours of coaching were positively associated with increases in literacy skills, math skills, and executive functioning.

Research on coaching. Coaching and mentoring supports are increasingly common QI activities throughout the US and have been shown to have positive effects.[189] Research on mentoring of child care providers has shown benefits for career satisfaction[190] and, in at least one study, for the quality of teacher-child interactions,[191] particularly when the mentoring is intensive, ongoing, and conducted by knowledgeable coaches.[192] The Quality Interventions in Early Care and Intervention (QUINCE) study evaluated two coaching and consultation models, Right from Birth Immersion Training for Excellence (RITE) (evaluated with 17 providers in Mississippi) and Partnership for Inclusion (PFI), and found improvements in home settings for care quality, but no significant effects on child development outcomes up to 12 months after the interventions.[193] In contrast, the RITE and PFI models were also tested in center-based settings, and the evaluations showed positive effects of both models on children's receptive language skills.[194]

One review of research on coaching in early childhood education found limited evidence of the effects of coaching on teachers' knowledge, attitudes, and beliefs, but some evidence indicating that coaching contributed to improved practices, especially when it focused on teaching methods.[195] The findings reviewed, however, were not consistently positive.

Studies have also shown that coaching can be effective in conjunction with more traditional forms of PD. For example, one study showed that children with teachers who received mentoring and coaching on language and literacy projects in addition to instructionally-linked feedback on children's progress showed greater gains in expressive vocabulary and print and letter knowledge compared to children with teachers who received business-as-usual PD (without coaching).[196] Several studies indicate, however, that not even in-class coaching or mentoring combined with PD as part of a continuous, school-wide improvement plan can guarantee gains in instructional effectiveness.[197]

Coaching interventions that incorporate feedback based on classroom observations of child care providers have become increasingly common in the field.[198] For example, studies have shown that basing coaching on a validated classroom observation instrument, such as the Teaching Pyramid Observation Tool (TPOT), predicted changes in teachers' practices and improvements in children's social skills.[199]

A few studies have shown promise for online coaching in early childhood settings.[200] Video-based models of coaching, such as My Teaching Partner and Making the Most of Classroom Interactions, have shown positive impacts on preschool teachers' practice and child outcomes.[201] A study of coaching aimed at improving early language and literacy development also showed improvements in children's letter knowledge, print concepts, writing, and blending skills.[202]

A few studies have examined coaching in the context of QRIS. Consistent with the evidence from California mentioned above, other evaluations have shown coaching to be positively associated with child care quality for programs participating in QRIS. While non-experimental, an evaluation of the Palm Beach County QRIS reported that the majority (80%) of ECE providers who worked with an early learning coach reported that coaching helped them improve their job skills. Further, ECE providers who worked with coaches for longer periods of time reported higher levels of improvements in job skills.[203] In a 2015 randomized controlled trial evaluation of a QRIS intervention, the treatment group centers, which participated in an average of seven hours of coaching**,** had higher observed quality compared to the control group centers.[204]

Only one study to date has examined how coaching relates to practices for students with special needs.[205] This study found that performance feedback increased pre-service teachers' use of recommended practices (e.g., descriptive praise, emotion labeling, promoting social interactions) in inclusive early childhood classrooms.

Summary. Of all QI activities, research on effective professional development suggests that coaching is most consistently related to program quality improvement and improvement in child outcomes. It also is the most expensive QI activity, with an average price of $3,400 per participant.[206]

Financial aid. In this chapter, we review evidence on the effectiveness of financial aid that supports continuing education for ECE providers or students training to join the ECE workforce that yields credits, credentials, or degrees.

Program evaluation of financial aid incentives in California. Using financial incentives, such as scholarships or stipends, to help teachers engage in formal education or credentialing systems might improve the quality of teaching practice by enhancing teachers' knowledge of pedagogy or child development.[207] Although California has a shortage of qualified teachers, we know little about the effectiveness of these QI supports in the state. Only one study has evaluated whether participation in credit-bearing courses was related to program quality and child outcomes in California in the context of programs participating in QRIS. The study found no significant associations.[208] Further, a review of evaluations of the Compensation and Recognition Encourage Stability (CARES) and other compensation and retention initiatives (CRI) implemented in California from 2000 through 2004 concluded that these programs motivated

many practitioners to become more engaged in professional development opportunities (i.e., attending trainings, taking credit-bearing classes) and increased retention among ECE practitioners.[209] The report, however, also highlighted a number of challenges facing the CARES/CRI programs, such as greater difficulties recruiting family child care participants compared to center-based staff.

Research on financial aid incentives. Compared to professional development and coaching, very little research has examined the role of financial aid incentives in improving ECE program quality or child outcomes. Rather, most related research has broadly focused on whether teachers' formal education (i.e., attainment, major, and credentials) is associated with higher-quality child care (see Chapter 3). In general, this work has shown mixed evidence regarding the association between educational attainment or credentials and program quality or child outcomes.[210]

An exception is a study in Florida, which found that the amount of scholarship money centers received was associated with increased quality ratings from one year to the next. They also found, however, that both centers and FCCHs with initially higher QRIS ratings used more scholarship funds, suggesting that higher-quality programs were better situated to apply for and obtain scholarships.[211] For example, higher-quality programs may have staff members who are more interested in furthering their education, or directors who are more savvy about applying for supports. Whatever the reason, the finding suggests that lower-quality programs may need additional encouragement or assistance in accessing the available supports.

A review of evaluations of financial incentive initiatives in various states provides some evidence on other factors that increase the effectiveness of financial incentives. The study found evidence that these programs were successful in increasing enrollment in higher education courses, number of degrees earned, retention in the field, and feelings of professionalism among ECE staff.[212] These education and training changes, however, depended to some degree on whether occupational supports were provided (e.g., paid leave for education, scholarships for courses or training), whether education was a criterion for participation, and whether education was tied to pay levels. The review concluded with the following policy recommendations for future financial aid incentive programs:

- Explore the possibility of increasing starting salaries and establishing minimum requirements for workers.
- Link professional development activities to bonuses or increases in pay.
- Provide adequate outreach and marketing to the ECE community, particularly to workers who are often not reached.
- Offer opportunities for career growth through the provision of education and training credits toward a college degree.
- Encourage public colleges and universities to make accommodations for the work schedules of students.

- Encourage ECE programs to put adequate supports in place to enable workers to participate.
- Offer a menu of programs to accommodate the professional development needs among the full spectrum of ECE staff (i.e., from novices to master teachers).
- Fund programs at levels that guarantee sustainability and last long enough to demonstrate effects.
- Provide continued support, mentoring, and monitoring of participants.

Summary. Little is known about the effect of financial aid on program quality. Further, no research to date has examined associations between the size of financial aid incentives and ECE staff outcomes (i.e., education, training, and retention) or assessed the effect of financial aid incentives on program outcomes that are associated with children's developmental outcomes. Given the widespread use of financial support for QI, there is a need for more research that examines whether receiving additional credits or credentials affects program quality.

Conclusions. The review of quality improvement strategies in California and of research and examples of effective practices suggest a number of considerations. The policies of a few states (see box) that have made progress in addressing some of the issues below might be worth examining in any changes California considers to improve the efficiency and effectiveness of early childhood program quality improvement strategies.

Coherence. Quality improvement activities in California are delivered through 30 separate programs, some very small. Some consolidation, such as the creation of more block grants, would likely reduce overhead costs and provide more flexibility. Some of the fragmentation at the state level is duplicated at the county level. For example, only half of the consortia that receive both IMPACT and QRIS block grants administer them through the same lead agency.[213] This fragmentation makes it difficult to assess particular needs because participation in services offered through different funding sources and agencies cannot be tracked. Interviews with EC experts revealed widespread agreement that different funding streams and program requirements have created a fragmented, siloed quality improvement system for ECE in California. One interviewee noted also that having funding sources with different timelines makes it difficult to put together sustainable, comprehensive programs for improving quality.

Lessons from effective QI initiatives have also shown the importance of defining clear program goals to guide QI work and establishing a process for developing individualized goals that align with the overall objective. For example, a Head Start REDI intervention focused on implementing a curriculum designed to improve teacher-child interaction quality. In this intervention, coaches used the same set of strategies with all the teachers, but adjusted the pace depending on how well the teacher had mastered the content.[214] Best practices from states with high-quality ECE programs have also demonstrated the value of developing a

cohesive and coherent state framework around QI, although in California such a framework would have to be flexibly implemented at the local level to accommodate the size and diversity of the state.

Flexibility. Restrictions on QI funding prevent county-level agencies from directing funding to meet local needs. The recent change to a QRIS Block Grant provides more flexibility, but it is restricted to providers that participate in QRIS. The Legislative Analyst's Office recommended creating a block grant of other county-level funding to improve flexibility.[215]

Accessibility. QI funding currently serves primarily providers that are already subject to the higher Title 5 standards. Partly because of the way funding is allocated, providers participating in QRIS are disproportionally State Preschool providers. About a quarter of preschool-aged children and a large majority of infants and toddlers, however, are served by voucher-based providers. The recent change requiring state-level programs, such as CPIN and PITC, to serve only programs that participate in the QRIS reduces still further the reach of these programs. In addition, interviews with EC experts highlighted the importance of informal PD opportunities that are offered on a more ad-hoc basis through local R&R networks or LPCs. One interviewee noted that these informal PD sessions could be very helpful for providers who need help with hands-on strategies that can be quickly implemented, such as ideas for activities or snacks or tips on how to handle a child who is biting. However, interviewees also pointed out that a more systematic and centralized approach is needed to coordinate these efforts across the state so that providers have an easier time accessing specific training opportunities.

The accessibility of QI activities varies widely by child care provider type in California, with unlicensed caregivers being very unlikely to participate. Any effort to reach informal caregivers will need to consider barriers to their participation (e.g., language, technology, time) and integrate formal QI supports with the informal networks that may already be in place. The EC experts interviewed for this report agreed that any ECE program receiving state subsidies should participate in QI efforts.

Research-based practices. Most of the EC experts we interviewed commented on the need to improve the quality of the QI programs offered in the state. There is very little evidence for the effectiveness of PD that is not embedded in teachers' everyday practice. With rare exceptions, the PD resources currently offered by California do not meet the criteria viewed as important for improving care and instruction. Teachers typically participate independently, not collectively, and the PD is not embedded in their own program contexts. Administrators may or may not be aware of what teachers are learning, and teachers' experience in PD is piecemeal, not part of a coherent, focused effort to improve practice.

In contrast, the evidence for the value of coaching is stronger than for that of any other QI activity. It is linked to improved teacher-student interactions, lower teacher burnout, and increased teacher retention rates.[216] Further, coaching and mentoring supports are considered

to be one of the "building blocks" of high quality and are provided in states known for high-quality ECE programs.[217] Indeed, interviews with EC experts revealed that the majority of respondents identified coaching as a key driver of QI efforts. Many interviewees cited the sustained, intensive nature of coaching that focused specifically on interactions with children, as well as on the mindset and skills of the ECE provider, as the reason for the effectiveness of this QI support. Although coaching is relatively expensive, some savings could be achieved by ceasing to offer PD programs that are available to individual teachers and not integrated into coherent program improvement efforts. Experimentation with coaching using technology could also reduce the costs somewhat.

Efficiency. County agencies independently develop training programs (e.g., for coaches) and other resources, and they need to evaluate the effectiveness of their approaches to QI. The state could create centralized support and information for work conducted at the county level that would take advantage of lessons learned about effective practices from across the state. Stability in funding also contributes to efficiency. Effective QI efforts require an investment in capacity building. For example, coaches need to be hired and trained. If funding varies substantially from year to year, those investments can be lost, and time and resources are wasted when the capacity to serve programs has to be reconstructed.

Data and evaluation. There is currently no widespread system in place for tracking data on educators' participation in QI activities. A shared tracking system that tracks participation in state and local QI supports across counties would be useful to inform decisions about QI program needs (see Chapter 7). The use of a workforce registry is one strategy for tracking the degree attainment and PD activities of the workforce. In interviews with EC experts, many interviewees cited the need for a workforce registry to identify the types of supports that EC teachers need to have in place (e.g., paid planning time, increased wages) to meet increasing expectations for quality improvement. In addition, EC experts suggested that these workforce registries should include administrative data (described further below) on QI activities in order to assess the link between QI outcomes and teachers' background, compensation, and training.

Efforts to evaluate the panoply of programs funded in California are few and far between. Those that exist provide information only on how the funds are used, for whom, and the participants' satisfaction. Evaluations are needed to assess the value of these programs, and they should include information on participants' application of the practices learned during QI activities. Without these data, we cannot assess the impact of QI investments on program quality or children's outcomes.

"Dosage of services" typically refers to the amount or quantity of QI that is provided to a particular program or individual. While prior work has found positive associations with higher dosages of support, we know little about how to gauge dosage in practice.[218] Dosage should be tracked in QI data systems in order to conduct analyses that can link dosage levels to the effectiveness of QI supports (i.e., changes in practice). Related to dosage, the intensity of QI

activities can be assessed by calculating the dosage of TA support (i.e., frequency and length of sessions) and the duration of the intervention over time.

Summary and Considerations for the Future

California uses several strategies to ensure and improve quality in early education programs. Licensing is required of all subsidized programs that are not license-exempt. But standards for programs under Title 22 are very low, focusing primarily on health and safety and structural characteristics that have at best weak associations with child outcomes. Compliance is also not well monitored after programs are licensed. The large proportion of children, particularly infants and toddlers, who are cared for in license-exempt programs poses a significant problem for California's ability to ensure that its children receive quality care.

A Quality Rating and Improvement System has been implemented in California as an incentive for programs to maintain high quality and as a strategy for identifying areas that do not meet high standards and for providing supports for programs to improve. The effort is currently relatively weak because participation rates are low, especially among the programs that are not already held to the higher Title 5 standards. There are no financial incentives for participating, and lower-quality programs, at high risk of receiving a low rating, have a disincentive to participate. Moreover, research on QRIS has provided at best weak evidence for associations between ratings and child outcomes. QRIS is also not effective in guiding parents' choices, in part because so few programs participate and so few affordable alternatives are available.

At the program level, the DRDP is the primary instrument used in California to promote quality by ensuring well-informed instructional decisions. The evidence suggests that ratings based on the measure reflect children's overall developmental level, but there is no evidence indicating that the instrument validly assesses specific domains of development. Moreover, there is almost no evidence that it is used by teachers as designed, to inform curriculum and instruction. The problem may lie with poor training and a lack of time given to teachers to complete it, and may thus reflect on DRDP's implications for instruction rather than on the measure itself.

There are many challenges to improving access to and the delivery of QI supports in California, particularly given the size and diversity of the state's EC population. The sheer number of state-funded QI programs has resulted in a fragmented delivery system that makes it difficult to coordinate QI efforts flexibly and efficiently at the county level. State-level funding also disproportionally benefits contract-based providers who are already required to meet higher standards and creates a bifurcated approach to QI that prioritizes funds for the EC settings that serve the minority of children within the EC population (i.e., preschool-aged children). California also does not collect sufficient data to assess the effectiveness of these

programs in promoting EC quality, thus offering little insight into how the delivery and quality of EC programs can be improved.

If California is to offer the high-quality early learning programs necessary to support children's long-term development, improvements are needed at every level, including licensing, QRIS, and other efforts to improve quality. We conclude our analysis with a point made in a 2009 Rand report. Although the report focused on state preschool and its role in reducing the achievement gap, its conclusion is relevant to all forms of early learning programs in California and to improving all developmental outcome:[219]

> … our analysis indicates that there would be almost no narrowing of absolute or relative achievement gaps from just raising preschool participation for all groups without any change in preschool quality. These results suggest that raising preschool quality is essential if preschool is to be an effective policy lever for addressing achievement gaps. (p. xix)

Currently California has at best a weak set of fragmented strategies to raise the quality of children's experiences in early childhood education settings. Other states, as summarized below, provide models of what might be put in place in California.

Best Practices from Other States

The importance of QI in high-quality ECE has prompted interest in identifying best practices from other states.[220] Based on a recent Learning Policy Institute report highlighting four states that have successfully implemented high-quality ECE systems, we here summarize policies and practices in QI from (1) Michigan; (2) West Virginia; (3) Washington; and (4) North Carolina.

Michigan. Michigan takes an integrated and cohesive approach to improving program quality by setting clear standards and expectations for learning through a quality rating system that also integrates classroom-based support for continuous improvement (i.e., on-site coaching for every teaching team by experienced and qualified consultants).

Quality improvement efforts through state-funded preschool, the Great Start Readiness Program (GRSP), which served 34% of the four-year-olds in the state population in 2016, are administered at the regional level, allowing tailoring of QI supports to individual districts' needs.[221] Evaluations have linked participation in the GRSP to improved child outcomes, such as better kindergarten readiness, fewer grade repetitions, and higher reading and math proficiency.[222]

In the GRSP's continuous improvement model, all programs work with an early childhood specialist who leads the GRSP teaching teams by providing daily curriculum training and monthly classroom visits to support and mentor teaching teams. Baseline quality assessments using a standardized program evaluation tool (HighScope's Program Quality Assessments) are conducted at the beginning of each year and teachers are coached on areas for improvement, such as adult-child interactions, learning environment, daily routine, curriculum planning and assessment, and parent involvement. The early childhood specialist runs data analysis team meetings three times per year to discuss

challenges and identify strategies for improvement. The early childhood specialist conducts the final program quality assessment in the spring and submits data to the state, generating statewide data on program quality improvement.

West Virginia. West Virginia relies heavily on county-led QI processes in which local administrators assess local needs, establish goals and priorities, and select assessments, as well as create plans for collecting and analyzing fiscal, program, child outcome, and classroom observation data to inform decisions related to program improvement. Local-level collaboration is another important component of West Virginia's system. For example, state administrators encourage preschool providers to engage in joint training and professional development with local Head Start grantees.

West Virginia offers voluntary, universal preschool for four-year-old children and three-year-olds with identified special needs.[223] In 2016, 66% of the four-year-olds in the state were enrolled. Evaluations have linked one year of participation in West Virginia's preschool with gains in print awareness at entry to kindergarten.[224] While the state retains an important role in developing and managing policies around quality improvement, county-level teams are responsible for local implementation by creating plans based on an assessment of local needs and priorities and targeting resources. As a result, West Virginia's approach to QI offers a model for how to balance state standardization with local flexibility.

In West Virginia's system for QI supports, state administrators offer county-level preschool staff training and guidance throughout the year. Further, state administrators conduct a review every three years that involves an audit of program documentation, classroom observations, and a conference between state and country staff to review results. Together, these processes are designed to align county-level program quality with federal and state policies and to allow the state to individualize technical assistance and input for local continuous quality improvement.

Washington. Washington's state-funded Early Childhood Education and Assistance Program (ECEAP) for preschoolers is a small program, serving only 9% of four-year-olds and 4% of three-year-olds in the state. It fosters a "whole child" approach through state-defined developmental guidelines, wraparound services (i.e., health coordination and services), and teacher coaching.[225] Evaluations have linked participation in ECEAP to test scores gains in reading and math that persisted through fifth grade.[226] Washington's approach to QI is unique in that the state is developing a statewide coaching model as a focal point of improvement for all early learning, particularly child care, and dedicating resources to fund it. The goal of this strategy is to close the quality gap between child care and preschool. Beginning in 2017, state preschool and subsidized child care providers will be assessed using the state's new QRIS, which incorporates quality improvement grants for providers, tuition for staff's ongoing education, and on-site coaching.

All coaches hired by the state have experience in early education and have, or are in the process of acquiring, a degree in child development. Coaches receive two days of formal training that is jointly conducted by the University of Washington and Child Care Aware, supplemented by webinars and meetings with peer coaches and trainers. Coaching sessions generally focus on improving the structure of the classroom, adult-child interaction quality, and developing engaging lesson plans. Washington's Department of Early Learning is in the process of implementing a regional support model that would allow coaches to conduct their own PD locally.

North Carolina. North Carolina developed Smart Start, a public-private partnership that comprises a network of 75 nonprofit agencies offering "one-stop shop" service coordination for families and children 0-5, with the goal of coordinating early education services to meet community needs.[227] This program facilitated a seamless integration of North Carolina's state-funded, targeted preschool that serves 22% of four-year-olds in public and private settings across the state. Evaluations have linked participation Smart-Start funded programs to increases in program quality, which in turn positively predicted student outcomes.[228]

Two primary mechanisms drive program quality in North Carolina: program evaluation and child care licensing. Participation in the state's QRIS is mandatory for all licensed early education programs. Tiered reimbursement is also used to incentivize child care providers to pursue QI activities through the licensing system. In recent years, North Carolina has gradually increased teacher education requirements for child care and state preschool, while investing in scholarships and wage subsidies to support and incentivize teachers. For example, child care providers are required to maintain three stars (out of five) and preschool providers four stars to receive a state contract. They are also eligible for financial incentives and technical assistance for program improvement activities, including greater child care subsidy reimbursements.

Importantly, North Carolina also encourages teacher advancement and retention through two nationally known scholarship and salary supplement programs. The Teacher Education and Compensation Helps (T.E.A.C.H) program offers scholarships for additional teacher education, and the WAGE$ program supplements preschool teachers' salaries based on their education for all ECE providers in the state. In addition, North Carolina requires state preschool teachers to participate in three years of coaching support and evaluation before earning a fully qualified credential.

Appendix A:

Interviews

Linda Asato, Executive Director, California Child Care Resource and Referral Network

Neva Bandelow, Early Learning Program Manager, Alameda County Office of Education

Graham Dobson, Administrative Analyst for ECE Policy Office of Early Care & Education, San Francisco, Office of Early Care & Education, Human Services Agency

Margot Grant Gould, Policy Director, First 5 Association

Moira Kenney, Executive Director, First 5 Association

Peter Mangione, Co-Director of WestEd's Center for Child and Family Studies

Scott Moore, Chief Executive Office, Kidango

George Phillip, Senior Program Associate, WestEd

Heather Quick, Managing Research Scientist, American Institutes for Research

Fiona Stewart, Program Director, Child Care Alliance of Los Angeles

Appendix B

California Quality Improvement Programs Funded Through the CDE

Category	Activity	Description	Eligibility for Participation	2017-18 Funding Amount
Leadership and Coordination	Local Child Care and Development Planning Councils (LPCs)	LPCs serve as a forum for identifying and addressing the child care needs (both subsidized and non-subsidized) of families in the community.	Free and available to all child care providers	$3,353,000
Child Care Provider Resources	Resource and Referral (R&R) Agencies	R&R programs are responsible for carrying out activities that support center-based, family child care and license-exempt care providers, such as recruiting and training child care providers and offering technical assistance to enhance child care provider skills. R&R services are free and available to all parents and child care providers.	Free and available to all child care providers	$22,280,266
	800-KIDS-793 Phone Line for Parents	A toll-free telephone system that provides general child care information in English and Spanish and connects interested individuals (e.g., parents, child care providers) to local R&R programs.	Free and available to all child care providers	$91,000
Health and Safety	License Enforcement for Child Care Programs	This project funds activities and licensing visits with the goal of maintaining and increasing the quality and availability of child care.	Licensed child care providers	$8,000,000
	Health and Safety Training Grants and Region Trainers	Funds for R&R agencies to reimburse child care providers who complete the health and safety trainings.	Licensed center-based staff, licensed family child care providers, and license-exempt family child care and in-home providers	$2,655,000
Training and Professional Development	Subsidized TrustLine Application Reimbursement	Provides reimbursements for fees associated with the Trustline process. Trustline is a database of license-exempt providers that have cleared criminal background checks in California.	License-except providers serving families who are eligible for subsidized child care or as participants in Stages 2 and 3 of the CalWORKs child care system	$460,657

Early Learning and Development Guidelines	Infant/Toddler and Early Learning Resources	Development of State Infant/Toddler Learning and Development Foundations, the Preschool Learning Foundations, Curriculum Frameworks, Program Guidelines, Early Childhood Educator Competencies, and Best Practices documents.	Licensed center-based staff, licensed family child care providers, and state preschool	$680,000
	Faculty Initiative Project	Supports collaboration among faculty members involved in core early childhood education and child development curriculum in the California Community College and California State University systems.	Faculty at California state and community colleges	$455,000
QRIS – CORE 1: Child Development and School Readiness	Desired Results System for Children and Families	Supports continued development of the Desired Results Developmental Profile (DRDP) system, which is an assessment instrument to measure the progress of children who receive subsidized child care and development services through state-contracted center-based or family child care home education networks.	Licensed center-based staff and licensed family child care providers participating in QRIS	$2,495,100
	Desired Results Field Training	Supports training and technical assistance in all areas of the Desired Results System to assist programs in using assessment for program quality improvement through regional trainings and access to a website with training materials, online courses, tutorials, and access to DRDPtech.	Licensed center-based staff and licensed family child care providers participating in QRIS	$816,845
	Program for Infant Toddler Care (PITC) Institutes	Supports comprehensive multi-media training program for trainers of infant/toddler caregivers. Other technical assistance resources include College Demonstration Sites, regional support network and outreach sessions.	Licensed center-based staff and licensed family child care providers participating in QRIS	$970,000
	PITC Inclusion of Infants/Toddlers with Disabilities: Beginning Together	Supports technical assistance to PITC specialists and coordinators to support them in creating linkages between early interventions and infant/toddler care programs at the local level.	Licensed center-based staff and licensed family child care providers participating in QRIS	$840,000
	PITC Partners for Quality Regional Support Network	Supports training and technical assistance at the local level to improve the quality and increase the quantity of child care services for infants and toddlers.	Licensed center-based staff and licensed family child care providers participating in QRIS	$4,441,674

	California Preschool Instructional Network (CPIN)	Supports statewide professional development, technical assistance and support to California's preschool program administrators and teachers.	State preschool providers in programs participating in QRIS	$4,000,000
	California Inclusion and Behavior Consultation (CIBC) Network	Supports a network of inclusion and behavior consultants that offer on-site consultation and technical assistance to early care and education providers.	Licensed center-based staff, licensed family child care providers, and license-exempt family child care and in-home providers. Free for programs that participate in a local QRIS	$920,000
	Map to Inclusive Child Care and California Collaborative on the Social and Emotional Foundations for Early Learning (CA CSEFEL)	Supports 1) expanding access to opportunities for children with disabilities and other special needs in early care and education through the MAP to Inclusive Child Care; and (2) connecting early childhood programs with trainers and coaches who are experts in the CA CSEFEL Teaching Pyramid Framework.	Licensed center-based staff, licensed family child care providers, and state preschool	$750,000
	Developmental Screening Network	Support screenings of young children through a network of trainers that is supported by a community of practice.	Licensed center-based staff, licensed family child care providers, and state preschool	$175,000
QRIS – CORE 2: Teachers and Teaching	The California Early Childhood Mentor Program	Supports a mentoring program that provides growth opportunities for teachers and administrators in programs serving children birth to five and before- and after-school programs.	CDE plans to require mentor teachers to be teaching at sites rated QRIS Tier 4 or higher	$2,855,295
	The California Early Learning and Development (CECO) System	Supports an integrated set of online resources for early childhood practitioners, including courses on a variety of practices.	All child care providers	$290,000
	Child Care Initiative Project (CCIP)	Supports a program delivered through local R&R agencies to recruit and train child care providers to address demand for child care services.	All licensed family child care providers	$3,057,444

	Child Development Training Consortium (CDTC)	Supports financial aid and technical assistance for students to access college-level child development coursework in increase the pool of qualified staff for child care and development programs.	Students	$3,273,200
	Family Child Care at Its Best Project	Supports state-level training and quality improvement services (i.e. webinars, training programs).	Licensed family child care home providers	$766,704
	Child Care Retention Program: AB212	Financial support, often in the form of higher education tuition, to retain qualified ECE staff who work directly with children. These funds are administered by LPCs and designed to supplement, not supplant, local efforts for staff retention.	Child care providers from state-subsidized, center-based programs	$10,750,000
	Teacher and Supervisor Grant Program	Financial assistance for college coursework leading to the attainment of a Child Development Permit. Participants in the program must commit to working one full year in a licensed child care center for every year they receive the grant.	Students at a 2- or 4-year college in California who are enrolled in child and family studies programs	$310,000
	Stipend For Permit	Financial assistance toward the cost of obtaining a Child Development Permit.	Potential teachers in child care and development programs	$435,000
	CA-QRIS Certification Grants	Supports CA-QRIS regional hubs in the certification and recertification of trainers, coaches, observers, and assessors on the tools and professional development systems used by the CA-QRIS for rating and continuous quality improvement.	Licensed center-based staff and licensed family child care providers participating in QRIS	$100,000
QRIS – CORE 3: Program and Environment	CA Strengthening Families Trainer Coordination	Supports a community of practice comprising staff from R&R agencies who are certified trainers by the National Alliance of Children's Trust and Prevention Funds.	EC service providers	$40,000
	Community College PITC Demonstration Sites	Supports interest in integrating the PITC philosophy and practices into existing infant/toddler programs and courses. Existing PITC demonstration programs also receive training and technical assistance for staff training, equipment and material to enhance and maintain the quality of the programs.	California Community Colleges	$594,000
	CECMP Administration Scale and Business Administrative Scale Training	Supports training to reliability on the PAS and BAS.	CECMP director mentors in centers and large family care homes that participate in QRIS	$100,000

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CHAPTER 6: PREK-3[1] ALIGNMENT[2]

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PreK-3 alignment refers here to a broad set of policies and practices that are designed to provide students with consistent, high-quality instruction from preK through the early elementary grades. A focus on preK-3 continuity emerged in part out of concern that the positive effects of early education and intervention programs were often not sustained ("fadeout") after children entered kindergarten and elementary school.[1] Advocates of greater preK-3 continuity propose that fade-out is to some degree a consequence of elementary schools' failure to build on the benefits of high-quality preschool. The interest in preK-3 alignment has also arisen because of concerns about the large proportion of children who are not on grade level in reading by third grade. Acknowledging the importance of alignment between preschool and the elementary grades, The Elementary and Secondary Education Act (ESEA), as amended by the Every Student Succeeds Act (ESSA), requires local educational agencies (LEAs) receiving Title I funds to develop agreements with Head Start and other early childhood providers to increase coordination.

Alignment[2] is defined variably, but there are typically three important components. First, access and quality are emphasized. Adherents claim that all children should have access to high-quality preschool, which needs to be followed by high-quality instruction in the early elementary grades. A second, related component is giving children a seamless, continuous, and consistent educational experience, with each grade building on the academic and social skills children developed in the grade before – continuity as well as consistent quality. Third, advocates argue for implementing full-day kindergarten and expanding preK supports, such as parent outreach and small class sizes, especially for children at risk of school failure.

In this chapter, we describe some of the strategies that states and districts have employed to improve alignment between preschool and the early elementary grades, what is known about the effectiveness of these strategies, and the effects of state policies on these district efforts. Although preK-3 alignment has become something of a slogan, very little systematic research has examined the effects of state and district strategies. The material we have assembled in the chapter, therefore, comes from many disparate sources.

Efforts to create greater preK-3 alignment have taken place at multiple levels, although in California and elsewhere, efforts to implement policies supporting preK-3 continuity have been largely undertaken by individual school districts.[3] We discuss some of these initiatives,

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[1] Third grade is typically the focus in conversations related to continuity because it is widely believed that third grade is a watershed in children's achievement trajectory. The preK-3 slogan does not imply that continuity after third grade or from birth to grade 3 is not important, and there are many advocates for systematic, aligned supports for children birth through grade 3.

[2] The terms "alignment," "coherence," and "continuity" are often used interchangeably in the literature.

listed below, and provide a few examples of policies that other states have implemented to improve alignment.

- expanding access to preK;
- administering state preschool through school districts;
- locating preschools and elementary schools on the same campus;
- using transitional kindergarten to link preK and kindergarten;
- aligning state standards and state-mandated assessments across preK and the elementary grades to create continuity in what children are expected to know in each grade;
- creating comprehensive data systems that follow children from preschool into elementary school;
- creating equity between preK and elementary school teachers in training and pay;
- ensuring that curricula, instructional practices, and formative assessments are sequenced across grades, with each grade building on the prior grade;
- providing professional development and coaching for both teachers and administrators and fostering cross-grade communication to support alignment in instruction;
- providing K-12 administrators with training in early childhood education;
- expanding access to child and family support through third grade and creating consistent parent engagement policies and expectations preK-third grade;
- implementing all-day kindergarten and smaller class sizes in the early elementary grades

These general approaches to improving preK-3 alignment are discussed below.

Institutional/Administrative/Organizational Strategies

California districts have used several organizational strategies to increase access to preschool and create stronger linkages with the elementary grades. For example, some districts use local control funding formula (LCFF) or Title 1 funds to expand access to preschool, and some serve as the administrative agency through which state preschool funds flow.[3] In both cases, preschool is linked administratively to K-12 education at the district level. Some preK classrooms are on elementary school campuses, which facilitates shared professional development (PD) and teacher collaboration regardless of the preK funding source or administrative oversight. Most districts in California offer transitional kindergarten, which can serve as a link between preK and the elementary grades.

[3] For the 2016-17 school year, 55 California districts (out of 1,024) and four County Offices of Education reserved a total of a little over $15 million in Title I funds to support preschool (see Chapter 1). It was not possible to ascertain what portion of the LCFF funds was used to support preschool.

Supplementing Funding and Expanding Access to PreK

District administrators, policymakers, and foundation managers have reported in interviews that funding is the most substantial barrier to creating preK-3 alignment.[4] Even districts that have made strides toward implementing coherent preK-3 policies have affirmed that funding is their primary challenge.[5] This view is consistent with that of many experts who advise that a dedicated, predictable, and sustained source of funding is necessary for high-quality and coherent preK-3 policies.[6]

One barrier is that the state's allocation of funding for preK is insufficient (see Chapter 1). The shortage of preK funds makes it difficult or impossible for schools to offer preK programs to all eligible children in a district, much less programs that are of high quality. Low funding also makes it difficult to adequately train, pay, and retain high-quality preK teachers (see Chapter 4). To make up for funding shortages, districts are often forced to rely on unstable funding streams such as short-term support from foundations. Even with these supplemental sources, funding for preK is considered insufficient.[7]

In addition to the low level of funding for preschool in California, there is a lack of coherence in funding between preK and the early elementary grades. In 2015-16, the state spent $6,409 per student for state preK,[8] and $10,795 per student for TK-12.[9] In addition to promoting administrative coherence, consistently high levels of funding may contribute to children's achievement. One study found that the benefits of Head Start were larger when followed by access to better-funded public K-12 schools, and increases in K-12 spending were associated with better results for poor children who had been exposed to relatively high levels of Head Start spending during their preschool years.[10]

Finally, as described in Chapter 1, the funding streams for preK in California are fragmented, with different programs funded by different agencies, including the US Department of Education and Department of Health and Human Services and the California Department of Education and Department of Social Services. Each agency has a different set of standards and accountability policies.[11] Elementary schools receive children from programs funded through all of these agencies, in addition to private programs, complicating efforts to create continuity between preK and the elementary grades.

A few districts in California have made efforts to weave together funding from different sources and to create administrative links between preK and elementary schools. In San Francisco Unified, for example, 75% of funds for preK are from California Title 5, but the district also uses federal Title I funds, general local control funds, and funds from the city of San Francisco's public education enrichment fund, in addition to funds from foundations and other private sources. San Francisco also passed a proposition in 2005 and again in 2014 to provide additional revenue to expand access to preschool.[12] District administrators report that these disjointed funding streams are a major barrier to the successful implementation of policies and practices in the district.[13]

Some districts have expanded access to preK by directing LCFF funds to offer universal services to all children in the district or targeted services to children who meet income eligibility requirements. The LCFF funds, which are allocated to districts, include additional dollars for programs targeting low-income students, English learners, and foster youth. For example, Long Beach Unified expanded access to preK by blending Title I funds with LCFF funds to provide preK to all children in the district who meet income eligibility requirements.[14]

Because the LCFF is discretionary, districts are allowed to direct these funds to preK programs. Districts using LCFF funds in this way also include early education as a strategy in their Local Control Accountability Plans (LCAP).[15] Districts in California that have used LCFF funds to reach a larger portion of age-eligible preschoolers in their districts include (but are not limited to) Long Beach Unified, Fresno Unified, San Francisco Unified, Los Angeles Unified, San Diego, Oakland Unified, and Elk Grove.[16] Fresno Unified has committed to accepting all children into preK and funding them regardless of their income.[17]

Some school district administrators are unaware that LCFF dollars can be directed to preK, and others are hesitant to direct LCFF funds to preK. One report found that some district administrators were reluctant to include preK in their LCAP because, in their view, preK was separate and was taken care of by other funding streams and initiatives.[18] Consequently, in order for LCFF funds to serve as a strategy for expanding access to preK, district administrators need to be made aware that LCFF dollars can be allocated to preK, and they need to be convinced that preK is an important component of children's education that districts have some responsibility to support.

Administering State Preschool Funds through School Districts

Currently 65% of state preK programs in California are administered through school districts,[19] while the remaining 35% are administered by other organizations. Administering these programs through the public school system has several advantages. It allows districts to draw on local funds or "in-kind" resources in the form of administrative and other support services for the preschool. It can also facilitate coherence between preschool and the early elementary grades. Having the state preschool administered by the district does not, however, guarantee coherence with the elementary grades. The preschools are not always located on an elementary school campus, and children attending the district-administered preK do not necessarily matriculate into the same district's kindergarten.

In 19 states, some or all state preschool funds go directly to districts, although the districts do not necessarily manage preschools directly.[20] Oklahoma, for example, has a mixed delivery system, with non-school providers receiving subcontracts from local districts.

In California, if the policy were changed so that all state preschool funds were administered through school districts, some provision would be needed to allow continued support for community programs, at least until school districts built the capacity to meet the state's enrollment needs. This provision could be accomplished by allowing districts to

subcontract with community-based programs while maintaining administrative oversight, as is done in Oklahoma.

Locating PreK on Elementary Campuses

It is difficult to facilitate communication among teachers and coordinate professional development across grades, and more generally to align instruction and curricula, when preK classrooms are not physically co-located with elementary classrooms. Districts that have made substantial strides in preK-3 alignment typically have preK classrooms located on elementary campuses. Long Beach Unified reported in one study that some of their practices, such as joint professional development workshops for preK and K-3 teachers, were only possible because the majority of the preK classrooms were located on public elementary school campuses in the district.[21]

Similarly, some of San Francisco Unified district-administered preK programs are located on elementary campuses, making the district's efforts to improve preK-3 coherence through shared meetings and professional development easier. In San Francisco Unified, administrators reported that co-locating preK programs and elementary schools allowed greater integration of preK teachers. PreK teachers could attend professional development workshops and staff meetings with K-3 teachers, and teachers across grades could visit one another's classrooms. Physical proximity also facilitated cross-grade meetings to discuss curriculum and instruction.[22]

Not all elementary schools have the space to add preschool. And alignment is hardly guaranteed when preK classrooms are located on elementary school campuses. In San Francisco Unified, it was found that some preK teachers had little contact with principals, and some elementary staff members were not even aware that they had preK on their campus.[23] Administrators have also indicated that the different work schedules for preK and elementary school teachers present an obstacle to collaboration. Clearly, locating preK classrooms on elementary campuses alone will not improve coherence without additional proactive steps to connect preK and K-3 teachers and administrators.

Transitional Kindergarten as an Example of Administrative and Geographical Connections

In 2010, the Kindergarten Readiness Act established the creation of Transitional Kindergarten (TK) in California. TK is designed to be a developmentally appropriate education for children who turn five between September 2 and December 2.[24] There are several ways in which TK is better connected than most preK programs to the elementary grades. First, TK is administered by elementary schools, and most TK classrooms are located on elementary campuses. Consequently, TK does not suffer from the administrative and geographic isolation of many preK programs. Second, TK teachers are required to have the same credential and salaries as elementary teachers. Third, although TK instruction is intended to provide the social-emotional focus typical of preK, it typically has a more academic focus than preK. Greater alignment between TK and kindergarten can therefore be expected than between preK and K.

Eighty-nine percent of school districts in CA operate TK programs.[25] Districts that have taken steps to implement coherent preK-3 policies report that TK serves as an important link between preK and the early elementary years. For example, teachers in TK classrooms in Fresno Unified elementary schools are well connected to the kindergarten and other early elementary grade teachers, and they communicate and work with preK teachers. TK teachers are well positioned to understand how both the preK and the K-3 programs work, and can thus serve as a link between them.

Recent research suggests, however, that such efforts to use TK to connect preschool and kindergarten are not the norm. Some administrators have reported that schools assign their worst kindergarten teachers to TK classrooms and that TK is viewed simply as another year of kindergarten.[26] This view is seen in data on how TK is being implemented. A survey of 20 school districts revealed that TK teachers spent the majority of instructional time (59%) using didactic methods, as opposed to the student-directed and interactive instructional approaches more common in preK. Children in TK classrooms spent, on average, 67% of class time in reading and math instruction, and only 8% of time in social-emotional instruction.[27] Since instruction in preK tends to focus less on didactic instruction and to emphasize social-emotional skills, these findings suggest that TK curricula and instruction were very different from those observed in typical preK programs.

The emphasis on academic learning in TK does have some benefits. A rigorous evaluation of children attending TK across California found that compared to children who just missed the TK age cutoff and instead went to preK, children attending TK scored significantly higher in kindergarten on early language, literacy, and math skills. There were no significant differences between the similarly-aged children attending TK and those attending preschool on social-emotional and executive function skills (e.g., cooperation, self-control, externalizing, internalizing).[28] These findings were replicated in a study of TK in San Francisco Unified.[29] In both studies, the advantages of TK were larger for dual language learners and ethnic minority children. The absence of negative effects on the social-emotional dimensions measured should reassure those who are concerned that an academic emphasis could undermine young children's social development, but the absence of TK benefits for social-emotional development suggests that TK might benefit children even more by increasing attention to social skills and executive functions.

These findings are promising for children's academic outcomes, but there is currently no systematic evidence of the impact of TK on preK-3 alignment. TK cannot fairly be expected to support connections between preK and the early elementary grades in situations in which preK is administratively and physically disconnected from elementary schools, including TK. Even when preK, TK, and the elementary grades are connected administratively and reside on the same campus, without cross-grade professional development or meetings to facilitate communication, coherence is unlikely to improve.

State Accountability Standards and Assessments

State standards and assessments have powerful effects on curriculum and instruction in K-12. Their effects at the preschool level may not be as strong, given the dominance of play-based and child-initiated activity in the early childhood education culture. But attention to standards and child outcomes is increasing in early childhood education and standards and assessment are beginning to affect instruction. Thus, the coherence of preK-3 standards can affect the degree to which students experience a coherent educational program in preK-3. We discuss efforts to align standards and assessments below.

Aligning Standards

As described below, California has several sets of standards that cover preschool through the early elementary grades. Standards influence curriculum and instruction, and preK-3 coherence in instruction requires alignment between the standards that apply to children in preschool and those that apply to children in kindergarten.

The California Preschool Learning Foundations apply to children at 48 and 60 months, before they have entered kindergarten. The preschool Foundations were intended to serve as a bridge between the infant/toddler foundations and the state's kindergarten standards and to reflect the recommendations of early education experts. The Foundations include nine developmental domains: social-emotional development, language and literacy, English language development, mathematics, visual and performing arts, physical development, health, history and social science, and science. Each domain includes "strands" and "sub-strands" that delineate the skills that children are expected to achieve with appropriate support by the end of preschool.[30]

California has adopted the Common Core State Standards (CCSS) for K-12. One of the domains in the Common Core State Standards is "English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects." For kindergarten, this domain includes reading standards for literature and informational text, foundational skills, writing, speaking and listening, and language standards. There are two types of mathematics standards. The standards for mathematical *practice* include eight key processes and proficiencies that apply to all content areas in all grade levels. For example, the first three mathematical practice standards focus on the ability to 1) make sense of problems and persevere in solving them, 2) reason abstractly and quantitatively, and 3) construct viable arguments and analyze the reasoning of others. The standards for *content* are specific to each grade level. In addition to the Common Core, the kindergarten content standards include standards for English language development, visual and performing arts, physical education, health education, history-social science, school library (information literacy), and science (the Next Generation Science Standards).

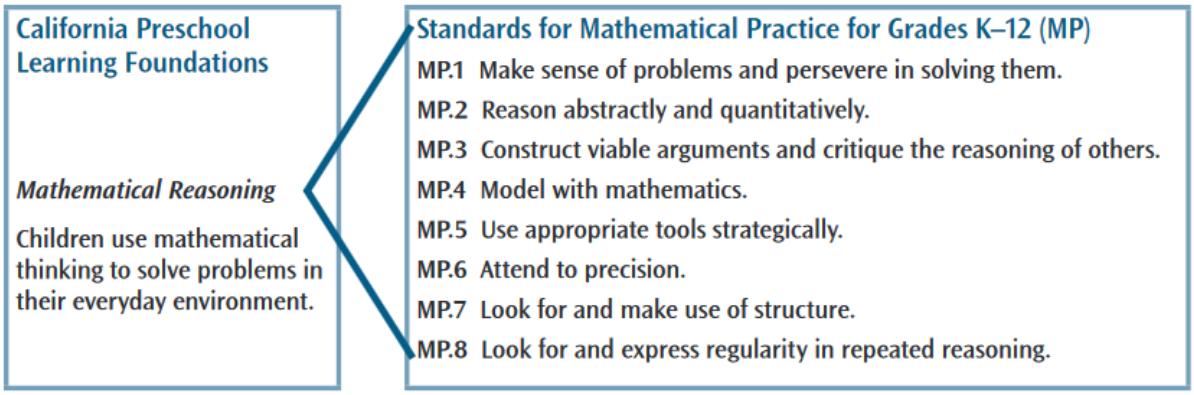
In 2012, the California Department of Education commissioned WestEd to conduct an analysis of the alignment between the Preschool Foundations, the Kindergarten Standards, and

the CCSS (in addition to the federal Head Start Child Development and Early Learning Framework).[31] Their work resulted in a detailed analysis of the links among these three sets of standards. The analysis focuses on how the content areas are aligned in the three documents. For example, both the Foundations and the CCSS address counting. In addition, both the Foundations and the CCSS identify terminology and sequence as important knowledge. As an example, the Preschool Foundation's 60-month standard (1.4), "Count up to ten objects, using one-to-one correspondence with increasing accuracy," is considered aligned to the CCSS for kindergarten, "Count to answer 'how many?' questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects." Both standards require knowledge of the sequence of numbers and one-to-one correspondence, but the CCSS is appropriately more difficult than the Preschool Foundation standard.

Additional analyses related to the alignment of the California Preschool Foundations and the Kindergarten CCSS standards are contained in the transitional kindergarten chapters in the Mathematics and the English Language Arts/English Language Development Frameworks.[32] These documents were written to provide guidance for TK curriculum and instruction. Rather than create grade-level standards for TK, the frameworks reflect the range of abilities that students may possess in the period between preschool and kindergarten. The frameworks, like the WestEd report, analyze substantive linkages between the Preschool Learning Foundations and the corresponding kindergarten standards from the California CCSS. The frameworks, however, make the additional contribution of putting the specific standards into the context of the big ideas they are designed to reflect, and discussing the implications for practice.

The Mathematics Framework reveals that the Preschool Learning Foundations are not as explicitly aligned with the CCSS math *practice* standards as they should be. Currently, as the figure below shows, only one explicit Preschool Foundation standard exists to capture all of the CCSE Standards for Mathematical Practice.[33] The practices are to some degree embedded in the preschool foundations, but research on mathematics learning since the foundations were created suggest the value of highlighting these practices.

Figure 1. California preschool learning foundations



The Mathematics Development Framework, which was created after the CCSS, makes these practices more explicit. But we cannot assume that preschool teachers pay as much attention to the framework as they do to the foundations. It would be useful to make these practices more explicit in the Framework because they have implications for *how* math is taught as well as for the skills children are expected to develop. Teachers' failure to incorporate the practice standards could result in teaching that does not prepare children effectively for the standards they will be expected to meet in kindergarten.

Another disconnect concerns the domains of standards. Although there is a fair amount of content alignment between the Preschool Learning Foundations and the CCSS kindergarten standards in English language arts and math, standards that apply to kindergarten do not include social-emotional development. In California, social-emotional development is also barely present in the Mental, Emotional, and Social Health strand of the kindergarten Health Education Content Standards. A few states have created better alignment by expanding the standards for the early elementary grades beyond the domains of math and language and literacy. For instance, in 2015 Ohio added three dimensions (social and emotional development, physical well-being and motor development, and approaches to learning) to its state standards for kindergarten through third grade, to be consistent with the dimensions included in its preschool standards.[34] West Virginia has also added some non-cognitive domains (e.g., self-directed learning, personal and social development) to its K-12 standards.[35] No attempt has been made in California to expand the standards for the early elementary grades to be more continuous with the Preschool Learning Foundations.

Aligning Assessments

We assess children's skills for different purposes. Teachers use *formative assessments* of children's progress toward meeting standards to plan curriculum for their classes and instruction for individual children. States, districts, and schools use *summative assessments* to determine the effects of particular policies and generally to track how effective their educational programs are in helping children achieve the standards.

Both kinds of assessment should be aligned across grades as well as with the standards in any given grade. When assessments are consistent and aligned across grades, they can be used to measure growth over time and inform teachers in subsequent grades of students' instructional needs.[36] Experts recommend that assessments in each grade build upon assessments in the prior grade to clarify student progress and identify achievement gaps.[37] Ideally, an assessment system not only is benchmarked to the state standards in each grade, but includes multiple progress indicators that are aligned from preK through third grade, so that teachers are aware of any skills or competencies that children are not consistently achieving.

In California, neither formative nor summative assessments are aligned across preK-3. The Desired Results Development Profile (DRDP), used in preschool, and the DRDP-Kindergarten (DRDP-K),[38] used in TK and kindergarten, are designed as formative assessments to help teachers identify children's instructional needs. The Smarter Balanced test, given to

children in grades 3-12, is considered a summative assessment; it provides a snapshot of whether an individual child or groups of children in a school or district have met the CCSS standards. Although not continuous across the preK-3 span, the assessment instruments are well aligned with grade-level standards. The domains of the Comprehensive version of the DRDP directly map onto all of the Preschool Learning Foundations.[39] And the Smarter Balanced is aligned to the CCSS.

There is no state-developed or state-sanctioned student assessment tool for first and second grade, and the DRDP and the DRDP-K are not designed to track children's skills in the aggregate. In consequence, it is not possible for the state to assess progress in achieving the state standards before third grade, to assess the effects of policy changes, or to answer specific questions, such as about the nature of and changes in the achievement gap related to race/ethnicity or family income.

Ideally, assessments are logically related and sequentially developed across all grades.[40] California could achieve this ideal by developing assessments for preK-2 that are aligned to the foundations for preK and the CCSS for kindergarten through grade 2. Models of such a coherent system exist. Some districts use extant assessments; others have developed their own student assessment system that charts children's progress from preK through the early elementary grades. Wisconsin requires annual reading assessments for students in preK through third grade.[41] Maryland will implement a K-2 assessment by 2018-19. Arkansas passed a law (Act 930 of 2017) that requires a state-approved assessment for children in kindergarten through grade 2 in literacy and mathematics.[42] Union City, New Jersey created a comprehensive assessment system benchmarked to the New Jersey Core Curriculum Content Standards. The assessment system includes multiple progress indicators aligned from preschool through third grade that forewarn teachers of any skills and competencies students are not consistently achieving.[43]

Assessments should not, however, be implemented if they are not used productively to improve instruction. Administering assessments that are aligned from preK-3 would be useful, but insufficient. Teachers and administrators need time to review assessment data, and they need training in how to use assessments to tailor and adjust instruction.[44] Even though the DRDP was developed as a formative assessment, there is very little evidence that it is used for this purpose, and teachers complain that it is a waste of time that they could otherwise be using to interact with their students (see Chapter 5).

The state also needs a data system that is comprehensive across grades to maximize the use of assessments by teachers and administrators. Currently most TK and kindergarten teachers, for example, are unable to access data from preK. We turn to this issue related to preK-3 alignment next.

Longitudinal Data Systems

To capitalize on assessment data, administrators and teachers need a uniform and continuous data system. Assessments can help teachers understand what students have

already learned and what is too far beyond their skill level. But teachers and schools cannot use assessments for this purpose unless students' data can be easily accessed and analyzed. If students' assessment scores were entered into a common database, then schools and teachers could track student growth and needs over time and districts could use data to monitor the effects of reform efforts.

In a study involving interviews of California district administrators, many identified the need for a common data system that could be accessed at any time to analyze their own progress at the district-, school-, or classroom levels.[45] They reported that the lack of a comprehensive data system beginning in preK hindered their efforts to improve preK-3 coherence. The California Longitudinal Pupil Achievement Data System (CALPADS) tracks students' academic performance from K-12. The CALPADS system, however, does not include preK or TK-2 data.

A few districts have made efforts to create their own systems. San Francisco Unified made one initial step to better integrate its data systems by assigning children a unique identifier when they enter preK.[46] Elk Grove Unified also developed a data system in which preK children have unique student identifiers that follow them into high school. Further, their data identifiers allow the district to disaggregate data for children who experienced different preK programs (e.g., Head Start, state preK, or Child Care).[47]

A few other states have developed state-wide data systems. Ohio, for example, collects some early childhood screening and assessment data and can link individual child data from some early education programs to its K–12 longitudinal data system.[48] Maryland created a data system to track children's school readiness beginning in preK.[49] West Virginia has integrated universal preK data (including attendance and assessments) that are made available to children's teachers when they enter kindergarten.[50]

But, as mentioned above, the data alone are not sufficient. As part of the Pathway School Initiative to improve literacy skills by third grade, districts in Minnesota employed a literacy formative assessment system (Strategic Teaching and Evaluation of Progress, STEP), which tracks students' literacy along a 13-step trajectory from preK through third grade.[51] Teachers reported that the professional development they received to help them analyze student data was helpful, but they still had difficulty integrating their data with the data from other state and district assessments. They also complained that they spent a considerable amount of time gathering STEP data but did not have enough time to make use of it.[52]

These findings point to the importance of providing teachers with time and support for using data to make instructional decisions. The same need exists at the school and district levels. Data alone do not improve instruction or policy decisions. Although "data-based decision making" has become a slogan among school reformers, few school administrators and teachers are well trained in using data. Thus, any effort to create a strong database that tracks children's learning from preschool through K-12 would need to be accompanied by efforts to support its effective use.

Workforce Alignment

No other state policy will do more to promote better preK-3 alignment than creating training and pay equity between preK and elementary school teachers. Currently, because funding is insufficient, districts cannot pay preK teachers on par with elementary teachers. California is one of 26 states without a pay parity policy. In 2015, preK teachers in California had a mean salary of $32,240. By comparison, the median annual wage for kindergarten teachers was $63,940.[53]

Training also differs substantially. While elementary school teachers in California have both a BA and a yearlong post-bachelor's program in teaching, the certification requirements for preschool teachers are among the lowest in the country (see Chapter 3 for more details). The state requires only 24 college units and no supervised field practicum, in contrast to the majority of states, where preschool teachers must have a BA in early childhood education or a related field or a teaching credential commensurate to that of elementary school teachers, as in North Carolina, New Jersey and Oklahoma. Because most preschool teachers in California have minimal training, they cannot be expected to benefit as much as their elementary school teacher colleagues from PD and collaboration.

In the study of California districts endeavoring to create stronger connections between preschool and the early elementary grades, the disconnect between the training and credentialing requirements was often cited as a significant barrier to promoting collaboration across grades and to broader preK-3 alignment.[54] Administrators noted that elementary school teachers are sometimes reluctant to work with preschool teachers because they do not view them as professionals.

Another major challenge to collaboration and joint PD, and even coaching, is the way preschool teachers' jobs are traditionally organized. PD is generally viewed as part of K-12 teachers' jobs, and some (although many would claim not enough) time is dedicated to opportunities to collaborate and participate in PD. This is not typically true for preschool teachers, who are with children all day with no paid planning time, and have far fewer opportunities for PD. District leaders explain that it is very challenging, and sometimes impossible, to schedule any kind of collaboration between preschool and elementary school teachers.

Curriculum, Instruction, and Training

Other strategies to improve preK-3 alignment are more likely to be implemented at the district or even the school level, although they could easily be supported or undertaken in partnership with the state. Districts and schools have implemented a variety of strategies to improve preK-3 alignment in curriculum and instruction, including providing professional development and coaching that include teachers across these grades, creating opportunities for collaboration and communication, and developing and using formative assessments that track

student progress across these grades. District administrators have found that principal training is critical for implementing all of these strategies effectively.

Aligning Curricula and Instruction across Grades

Curricula and instruction can be aligned across preK-3 in several ways. The first way is through content. Coherent instructional content provides "sensible connections and coordination between the topics that students study in each subject within a grade and as they advance through the grades."[55] Curricula should proceed logically through the grades, following a progression of increasingly complex subject matter. Sequencing should follow the logic both of the discipline and of children's typical learning trajectories. When instruction in one grade builds on that of the prior grade, children waste less time on material that they have already learned and they are not frustrated by instruction that they cannot benefit from because they lack the prerequisite skills. Moreover, coherent instruction gives students opportunities to broaden and deepen their skills through further practice and to observe the progress that they make in expanding their understanding and skills, which fosters motivation and engagement.[56]

There is little evidence specifically on the effect of coherent preK-3 instruction, over and above consistent high quality instruction, on children's academic achievement or social-emotional skills. There is, however, evidence demonstrating that instruction that helps children connect with and build on previous learning facilitates learning,[57] that instruction that repeats what children have already learned produces weak learning gains,[58] and that instruction using curricula based on developmental trajectories produces long-term results in children's learning.[59] Regardless of whether children have had the benefit of preschool, early elementary grade teachers have to adapt instruction to meet the needs of children with different levels of skills. But the need for differentiation is particularly challenging for teachers who have in their class some children who have had the benefit of preschool and some who have not.

Evidence also suggests that coherent instructional practices promote better learning.[60] One experimental study found that children who experienced effective, child-centered, and reasoning-based mathematics instruction in preK outperformed children who received more traditional teacher-directed and didactic mathematics instruction. In the following two years, children who had received the reasoning-based instruction in preK but then received traditional instruction in kindergarten and first grade performed only slightly better than the control group at the end of first grade. Children who received reasoning-based instruction in preK, kindergarten, and first grade, however, experienced sustained positive effects on math learning.[61] The change in teaching strategy appeared to explain the "fade-out" of the positive preschool effects.

Creating instructional coherence across preK and the early elementary grades is challenging in part because of differences in preK and elementary school teachers' views of developmentally appropriate practices. PreK teachers are often reluctant to increase attention to academic instruction, and elementary school teachers have reported discomfort in implementing the more child-directed instructional practices common in preschool. Particularly

for experienced teachers, it is difficult to change long-standing instructional practices and habits. New programs also bring new materials and strategies, which teachers have reported are difficult to learn and remember.[62] Consequently, professional development and coaching are critically important to implementing coherent instructional practices in preK through third grade.

Districts have implemented several strategies for creating preK-3 instructional coherence, including 1) adopting the same curricula and providing curriculum-based training to teachers across these levels; 2) providing cross-level professional development; 3) employing the same coach for preschool and the early elementary grades; and 4) providing time for preK-3 teachers to collaborate on instruction and assessment. There are very few commercially available curricula aligned from preK through the early elementary grades. Most districts that have implemented an aligned curriculum have created their own, which requires considerable capacity and is extremely inefficient. All of these strategies require strong leadership and creativity to carve out the critically important time needed for teacher learning and collaboration. Some examples of efforts to align instruction preK-3 are provided below.

Union City, New Jersey tasked its teachers with writing the district's entire preK-12 curriculum based on the specific needs of the children in the Union City community. Teachers update the curriculum each summer so that all grades and subjects are revised every three years. By doing some of the work in cross-grade teams, the preK and kindergarten teachers become familiar with what standards and content first-, second-, and third-grade teachers cover each week of the school year, and how those standards are assessed. Curriculum development meetings also lead to sharing instructional practices across grade levels. The result is a homegrown curriculum and corresponding assessments, aligned across grades, have been developed and refined by district teachers over more than a decade. The students in this district, in which 85% of the children live in poverty and 95% are Hispanic, consistently achieve at substantially higher levels than similar children in other schools in New Jersey.[63]

The Sobrato Early Academic Language (SEAL) program to support dual language learners, which has been implemented in several districts in California, is an example of an instructional intervention designed to include the same pedagogical features consistently throughout the program. These include a language-rich environment, a text-rich curriculum, and language development through academic thematic units.[64] The program also includes child-initiated, play-based learning and centers for active learning, bringing instructional practices that are more typically found in preK to the elementary grades with some developmentally appropriate adjustments. Children thus are meant to receive consistent pedagogical practices, in addition to experiencing a sequenced curriculum, from preK through the early elementary grades.[65]

Five schools in San Francisco Unified made organizational changes to classrooms that were intended to smooth the transition between preK and the elementary grades. PreK, kindergarten, and first-grade teachers planned classrooms that were organized with similar materials, furniture and layouts. These changes were intended to give children a sense of

familiarity and security, and to reduce the time they would need to adjust to a new classroom.[66]

In brief, although we do not have strong evidence on the value of such coherence and continuity across grades in instructional approaches, efforts to promote such continuity have shown positive results.

Professional Development across Grades

Beyond training teachers to implement coherent content and pedagogical practices, PD can provide an opportunity for teachers at different grade levels to learn together and to gain a common understanding of children's developmental trajectories previous to and following the grade they teach.[67] This understanding is important for creating continuity in instructional practices, strategies, and modalities across grades. Opportunities to learn about instruction in the neighboring grades help teachers build on the previous year in complexity and prepare children for the next year. PD can also help teachers implement other strategies that promote coherence, such as aligning assessments and using student data to guide instruction.

Understanding instruction in the neighboring grades is also important for teachers to be effective with students who enter their class with varying skill levels. Whatever the grade, children's skill levels are likely to span both previous and subsequent grades. For example, a first-grade teacher is likely to have some children enter her class without having mastered the kindergarten standards and other children who have already mastered the first-grade standards, at least in some subjects. To ensure appropriate instruction for children at these diverse levels of achievement, teachers need to fully understand the expectations and instruction needed for children before and after the grade they teach.

One study of school reform efforts in Chicago found that PD was one aspect of coherence that was associated with student learning, although the effect of PD cannot be teased apart from other components of coherence.[68] There is, however, extensive evidence showing that comprehensive and substantial PD interventions can successfully contribute to student learning.[69]

In a study of districts working toward preK-3 alignment, district administrators reported that professional development was an essential component of implementing coherent preK-3 instructional practices.[70] Long Beach Unified, for example, provided PD workshops jointly for preK, TK, and K-3 teachers. Long Beach also involved in PD workshops teachers from other early care and education sectors, such as Head Start and child-care programs, including family home care providers. These cross-sector PD sessions were intended to promote coherence for children who entered the Long Beach Unified schools in kindergarten but did not attend preK in the district.[71]

In San Francisco Unified, prior to the district's focus on preK-3 coherence, PD was optional for preK teachers. Now, the district offers PD workshops that span preK to third grade,

with the goal of creating greater continuity between preK and early elementary teachers' instruction. In these PD sessions, teachers discuss curriculum, instruction and assessment, and how to provide positive adult-child interactions and deliver individualized or differentiated instruction that is based on assessment data. In San Francisco, PD is delivered by multiple modes, including instructional coaching, technical assistance, Professional Learning Communities, site-based team meetings, and training workshops.[72]

Like San Francisco, many districts have found that using a master coach is an effective strategy for promoting coherence across the grades.[73] Union City, New Jersey, for example, identifies experienced and successful teachers and gives them the role of "Master Teacher," which encompasses instructional coaching and leadership in preK and kindergarten. Master Teachers develop individual professional development plans with every preK and kindergarten teacher, both within the district schools and at community providers.[74]

Fostering Cross-Grade Communication

Studies have found that dedicated time for collaboration among teachers can support instructional quality generally, as well as cross-grade coherence.[75] Professional Learning Communities (PLCs) across grades provide time for collaboration and can also be used to increase coherence in instruction. Regular communication among teachers of different grades can help teachers understand children's learning trajectories across grades. PLCs that bring teachers across grades together can also help teachers articulate a common set of child development goals and align instructional practices across grades to meet these goals.

San Francisco Unified instituted PLCs and site-based team meetings. The PLCs and team meetings are designed to facilitate communication among teachers and to provide an opportunity for preK and kindergarten teachers to plan lessons together and coordinate other aspects of instruction.[76] But these opportunities for collaboration are limited because preK and kindergarten teachers have different schedules.

The SEAL program mentioned above similarly established PLCs, which served as settings for teachers to communicate about children's progress, instructional practices, and larger goals for children's development. This communication between preK and K teachers was designed to enable the preK teachers to better prepare students for kindergarten and for kindergarten teachers to be better prepared to meet the needs of incoming students.[77]

The state can play a role in fostering this kind of communication. The Massachusetts Department of Elementary and Secondary Education fostered cross-grade collaboration by making small grants to districts to improve curriculum, assessment, and instruction from preK through grade 3 with a special focus on students with disabilities.[78] The grant stipulated that participating districts convene vertical study teams that included both special and general educators who serve students from preK to third grade. These teams were charged with studying and discussing a common set of readings, assessing their district's P-3 continuum, identifying a few strategies to address their district's needs, and implementing these strategies.

The districts were given a variety of resources and invited to attend workshops with guest speakers and networking events.

Another way teachers can communicate across grades is by visiting one another's classrooms, observing practices, and discussing their observations at team meetings or with instructional coaches. In a study of districts implementing preK-3 practices, administrators reported that they had implemented cross-grade classroom visits as a strategy for facilitating communication among teachers about instructional practices and identifying areas for better aligning instruction across grades.[79] San Francisco Unified also instituted cross-grade classroom visits, establishing time for preK-3 teachers to complete classroom visits and to discuss their visits at bi-monthly Instructional Leadership Team meetings.[80]

Making available dedicated and regular time for teachers to meet and communicate is critically important.[81] Case studies of focused efforts to improve preK-3 coherence found that teachers valued PLCs and meeting with their colleagues in other grades, but that finding time was a challenge.[82] In the Minnesota Pathway Schools Initiative, designed to improve coherence in literacy instruction preK-3, respondents to a survey cited common planning time as one of the primary facilitators of grade-level coherence. But they also complained that it was insufficient and reported that a lack of collaboration time was a key barrier to preK–3 coherence.[83]

District Administrators and Principal Training

The administrators in California districts endeavoring to improve preK-3 coherence revealed in an interview study that a commitment to preK among district administrators and school principals was a necessary precondition to implementing institutional changes such as those discussed above.[84]

Districts can build commitment to preK-3 coherence among administrators by disseminating information pointing to the effectiveness of early education and by administering additional trainings on early education and development for principals and other school leaders. District leaders who are committed to preK-3 coherence can bring about a shift in the priority given to the early grades that translates into changes in policy and practice. But such changes take time and require administrators to be sufficiently committed to navigating complex structural and political barriers.

A few California district leaders have been successful in elevating the status of early education and building commitment among administrators. For example, Fresno Unified and Long Beach Unified worked to build strong, consistent leadership and principal appreciation of the importance of preK-3 and helped leaders and principals implement a number of policies to create greater preK-3 coherence.[85] In San Francisco Unified, the superintendent initiated steps to build support for preK among other district administrators by hiring a new leader in the early education department and promoting her to a cabinet-level position. San Francisco Unified also disseminated materials about the research evidence on the value of preK to district staff and to

the community. The district secured commitment and sponsorship from the school board, and included preK as one of the strategies in the district's LCAP. The superintendent also put principals in charge of the preK programs located on the elementary school campuses. This step was intended to create accountability among principals for the performance of the preK programs and build commitment for further implementation of policies to support preK-3 coherence.[86]

Many principals who have taken on oversight of preschool and who have added TK have expressed concerns about their lack of training related to the education of young children. Consequently, even school principals who are committed to preK-3 coherence may not be able to effectively support it. Professional development can be used to help principals who are unfamiliar with child development learn about young children's trajectories and developmentally appropriate teaching practices.

There is no research specifically on the effects of early childhood education training on principals, but some districts have made significant efforts to provide it. For example, the Minnesota Pathway Schools Initiative emphasized principal development and support. Through the leadership collaborative, principals received professional development and coaching. Also, together with other school leaders, they visited districts with successful preK-3 models, set school-level goals, and planned targeted supports in areas deemed weak in their schools. One principal noted the value of networking and collaborating with people outside his building and seeing what works.[87]

A few districts in California have taken the initiative to provide principals with professional development related to early childhood education. Principals in Fresno Unified, for example, are given extensive training in the Early Learning Principals Academy. The program includes an intensive five-session course based on the six competencies outlined in the report of the National Association of Elementary School Principals (NAESP), "Leading PreK-3 Learning Communities: Competencies for Effective Principal Practice."[88] In addition to the training sessions, the Academy's practicum requires participants to teach lessons in an early childhood classroom and then reflect on the experience. The Early Education instructors in the Principals Academy also conduct group walkthroughs so participants can learn from one another's schools. Instructors meet with principals in follow-up sessions to help them talk through what they saw and plan how to implement the desired changes. Any school can be visited by administrators from another school in the district, creating transparency among schools within the district. Walkthroughs with coaches have helped principals see how toddler through second-grade classroom content can be linked across grades (or, in some cases, how misaligned programs fail to build on each other). Because their schools can be observed at any time and they want to perform as well as their fellow high-performing schools, principals have an incentive to improve the quality of their own schools. According to district administrators, the principals who saw model classrooms swiftly made efforts to implement new practices in their schools.

Harvard's Graduate School of Education provides a summer preK-3 Institute in which district and school administrators from around the country convene to learn about developmental and instructional issues across the preK-3 continuum, and to help administrators design implementation plans for their own preK-3 work.[89] In Washington State, the University of Washington's College of Education offers a Certificate in PreK-3rd grade Executive Leadership (P3EL). P3EL brings together administrators in the traditionally separate birth through age five and K-12 sectors by enrolling a cohort that includes elementary school principals and administrators of Head Start, child care, and state-funded Early Childhood Education and Assistance Programs.[90]

No such resource to support principal training in early childhood education exists in California. But there are organizations and universities in California that could provide professional development for district administrators and principals.

Expanding Access to Child and Family Support through Third Grade

Preschool typically engages families in children's education more vigorously than do elementary schools, and preschool programs, such as Head Start, often include parent education as a core element of the intervention. Advocates of preK-3 also promote giving children at risk of poor school achievement other supports, such as full-day kindergarten, extended learning opportunities, and access to community services.

The Chicago Parent-Child (CPC) Centers provide an example of this kind of comprehensive, preK-3 strategy. The goal of the CPC program is to promote aligned curriculum, intensive family supports and services, parent involvement and engagement, and professional development for teachers. A collaborative team (a head teacher, a parent resource teacher, and a school community representative) aligns and coordinates services and education for students and their families. After preschool and kindergarten, the school-age program in the early elementary grades provides reduced class sizes and teacher aides for each class. Studies have shown that program participation in CPC beginning in preschool was associated with higher school achievement, higher rates of school completion, lower rates of school dropout, lower rates of juvenile arrest, and less need for school remedial services.[91] Cost-benefit analyses have indicated that each component of the CPC program had economic benefits that exceeded the costs.[92]

Community schools serve as another model for providing ongoing supplementary resources for students after they enter elementary school. Community schools take many forms, but the main idea is that the school serves as a hub in which educators, families, and community programs collaborate to meet the educational, physical, and social needs of children to promote success in school. Community schools supplement their traditional academic offerings with services (including health, mental health, after-school, early childhood, summer programming, and mentoring and tutoring) in partnership with community organizations. Principals collaborate with partners typically through a cross-sector leadership team and a resource coordinator who helps arrange a range of services.[93]

The Early Childhood Linkage Project is an example of a community school model specifically designed to align preschool with elementary school.[94] The linkage programs provide a summer transition program for children and families, professional development for preschool and elementary school teachers to learn about each other's practice and improve continuity across settings, and shared professional development for school and community leaders. The goals are to create a seamless experience for children and families and to maintain coordinated community-based resources across preschool and the elementary grades.

In a Tennessee school district, a collaboration with Head Start provides access to a number of supports outside the classroom experience. Head Start provides health screenings and dental care directly to all children in the collaboration. A "family partner" works with the schools to connect families to other programs, such as parent education, nutrition, mental health, social services, and job counseling. Each school site is required to create a parent-involvement plan that includes social and educational activities for families. In addition, programs develop individualized Family Partnership Agreements to identify resources families need to become more involved with their children's education and development.[95]

With or without additional community-based supports, maintaining efforts to engage families through the early elementary grades can support preK-3 coherence. A failure to follow up in the early elementary grades with the parent involvement that is typically encouraged in preschool could result in the loss of a valuable resource. In addition to emphasizing parent involvement more in the elementary grades, experts have recommended creating consistency in the information given to parents (e.g., the reporting of student progress and messages about the way parents should be involved).[96]

In interviews, districts that had made strides in implementing coherent preK-3 practices commonly reported that parent involvement was a key practice that supported their efforts. Fresno Unified, for example, considers parent involvement one of the pillars of its preK-3 programs.[97] Parents also figure centrally in the SEAL program, which proactively communicates and engages with parents, families, and other members of the community. Teachers conduct home visits, during which they can talk with parents about what occurs in the classroom and teachers and parents can convey their own expectations to each other.[98]

San Francisco Unified has recently worked with Stanford University researchers to develop a text-message program to promote parent involvement, which has shown promising effects on both student achievement and parent engagement.[99] The program initially focused on preK parents, but could be expanded to the early elementary grades.

In summary, it is very possible that the fade-out observed in the effects of many preschool programs is at least partly the result of a failure to sustain the family and community supports that many preschool intervention programs provide. Efforts to create greater coherence between preK and the early elementary grades thus should go beyond instruction.

Conclusion and Implications for State Policy

Most focused efforts to improve preK-3 alignment have occurred at the district level. But the success of these efforts in California and other states depends substantially on state policies. First, the state is the primary resource for preschool slots. The state is thus substantially responsible for children's access to preschool. There are also many issues that the state needs to address, including the fragmented sources of funding and governance and administrative structures for preK.

Alignment between preschool and kindergarten state standards is critically important. On this issue, California has been effective, although there are areas (e.g., math practices) and domains (e.g., social-emotional development) in which the preschool and kindergarten standards are not aligned.

There are many ways the state can contribute to preK-3 continuity, such as by supporting the development of assessment instruments and a state data system that tracks children's progress from preschool through the K-12 system. In California, questions are currently being raised about the validity of the assessment used for preK though kindergarten (the DRDP), and no state-sanctioned assessment tool is available to bridge kindergarten and third grade. In addition to assessment instruments, the state could support research that examines the effects of various district and school strategies to improve alignment. There is considerable variation across the state that could be leveraged for this purpose.

In California, the most significant impediment to preK-3 alignment is the poor training and pay of preschool teachers. Efforts to provide professional development and coaching to preK teachers along with early elementary school teachers will help, but the effect of these supports on preK teaching is limited by the weak foundation preK teachers receive and the problems of turnover that are the result of low pay.

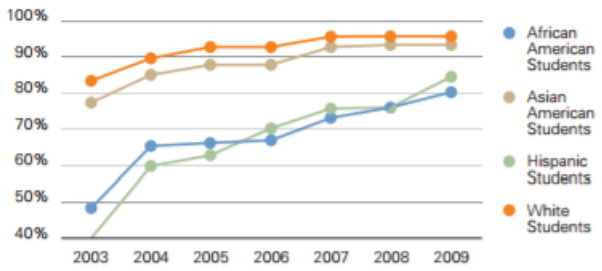
The kinds of administrative changes that some districts have made, such as putting preK programs under the supervision of elementary school principals, could support preK-3 alignment. But the value of such a change is based on the principals' knowledge and ability to support high-quality preK and to give preK and early elementary grade teachers support and time to collaborate. California could make some training in early childhood education a requirement for the elementary school credential (see Chapter 3). It could also create institutes and other forms of professional development for elementary school administrators, who are taking on the role of overseeing preK.

Fortunately, many districts in California have created their own initiatives, and other districts can learn from them. These efforts have uncovered many opportunities for the state to create policies that will support rather than undermine their work. Other states also provide many examples of policies that have been effective in promoting preK-3 alignment, which can inform policy decisions in California. The case study of Montgomery County Public Schools is informative.

CASE STUDY[100]

A highly successful preK-3 initiative in Montgomery County Public Schools (MCPS) in Maryland serves as a model of how one district serving a significant proportion of low-income children substantially improved student learning.[4] The initiative began in 1999 with a comprehensive strategic plan that established specific academic benchmarks. By 2010, almost 90% of kindergarteners entered first grade with essential early literacy skills; nearly 88% of third graders read proficiently; about 90% of 12th graders graduated from high school, and 77% of graduating seniors enrolled in college. The figure below shows the extraordinary gains over the years of the initiative in third-grade reading scores.[101] The gap was similarly reduced in math, although not quite as dramatically as in reading.

Figure 4A: Percentage of MCPS Third Graders Reading Proficient or Above on the Maryland State Assessment[a]



The district attributes the impressive achievements to the initiative, which involved 1) establishing clear and compelling district-wide goals linked to early learning; 2) creating a preK-5 curriculum framework and assessments that were aligned with state standards; 3) crafting integrated district-wide early-learning strategies, which included implementing common classroom materials, curricula, and assessments in Head Start and MCPS preschools; 4) funneling resources to reduce K-2 class sizes, implementing full-day kindergarten, and expanding preK access beginning in high-poverty schools; 5) creating continuity in early learning experiences by making it possible for most young children in an MCPS early learning program to attend the same school from preK through fifth grade; 6) holding monthly meetings for elementary school teachers and staff from Head Start and preK programs to discuss curriculum, assessment data, instructional strategies, and individual students; 7) employing every MPCS Head Start and preK teacher as a regular district teacher, receiving the same pay, benefits, and professional development opportunities as any other teacher in the district; 8) providing support to each new early learning teacher by assigning a consulting teacher and a range of experts to turn to for help, in addition to on-site staff developers and reading specialists; and 9) involving parents and community to support early learning.

[4] The Center on Enhancing Early Learning Outcomes (CEELO) and the Center on School Turnaround (CST) provide case studies of three elementary schools that implemented similar strategies with significant positive results.[105]

The state of Maryland played an important role in facilitating the work in MCPS. It passed legislation to establish centers that facilitated interagency collaboration and provided a structure for communication among early learning leaders from multiple groups. It also passed a statute requiring that all four-year-olds living at or below 185% of the federal poverty level be provided with high-quality early education, ensuring sustainable financing by integrating preK into the state's school funding formula. The Maryland State Department of Education and its Division of Early Childhood Development convened a Preschool-for-All Taskforce that developed 10 benchmarks for quality programs and proposed a model for delivering services that partnered school districts with early education providers. Maryland also mandated that each of its 24 jurisdictions create an interagency service coordinating body for children, youth and families, which Montgomery County used to support ongoing services for children and families.

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CHAPTER 7: EARLY CHILD CARE DATA SYSTEMS

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The summaries of the current state of early childhood education (ECE) in the previous chapters revealed a number of significant gaps in data. If they were available, these data could be used to make effective and efficient policy decisions. In this chapter, we consider the kind of data that might be collected, where California stands with regard to each kind of data, suggestions for a statewide system, and the challenges the state faces in developing a better data system.

California is substantially behind other states in collecting and using data on young children to inform policy decisions. In 2013, the Early Childhood Data Collaborative (ECDC) surveyed 50 states and the District of Columbia to assess early childhood data systems.[1] They found that 30 states linked ECE-level data to their states' K-12 data, 20 states linked ECE child-level data to social services data, and 12 states linked ECE child-level data to states' health data. In 32 states, an ECE data governance entity was designated to guide the development and use of a state-coordinated longitudinal ECE data system. California responded negatively to all of the questions on the survey related to such data.[1]

Why collect data? Policy and practice leaders at the state and community levels make many important decisions that impact young children and their families, and in many instances they make these decisions with little or no information about the populations they are seeking to serve and the results they are hoping to achieve. To use resources effectively and efficiently, policy makers need answers to some fundamental questions, such as these examples from the national Early Childhood Data Collaborative, a national organization that supports states in developing a system of early childhood education.[2]

- Are children, birth to age 5, on track to succeed when they enter school and beyond?
- Which children have access to high-quality early care and education programs?
- Is the quality of programs improving?
- What are the characteristics of programs that support positive child outcomes?
- How prepared is the early care and education workforce to provide effective education and care for all children?
- What policies and investments lead to a skilled and stable early care and education workforce?

This chapter elaborates on issues related to ECE data collection and use. In addition to a review of reports, the chapter is informed by interviews conducted with people who have

[1] A new survey is coming out in July.

extensive experience in in administrative and policy roles related to the field of early childhood in California (see Appendix A).

Types of Data

We identify four categories of data that could be included in an improved statewide system—data on the early childhood workforce, individual child data, data on programs, and data on family eligibility and program slots. In the last decade, local data systems in California have been favored over a statewide system. The list of data systems discussed in this chapter gives a partial but telling glimpse of the intricate and varied mesh of systems currently operating in the state.

A complex mix of agencies at the state and local levels serves young children. In many instances, the information California leaders need is already being collected, albeit piecemeal, by different agencies. The work needed in these cases is to link the existing data—not a trivial task, given the different strategies and formats used across the state. The state should not and will not be able to aggregate all of the data being collected across multiple agencies, but it can identify the key questions it needs to answer and then link the data needed to answer those questions.

As part of the process of linking extant data, the state could assess the current production and use of data at both the state and local levels and consider where new capacity needs to be developed. In cases where the data needed to inform important decision making are not already being collected, the state would need to expand its own data collection efforts or support local agencies in increasing data gathering. An important question for each of the kinds of data described below is whether the data should be collected and reside at the state or the local level.

There are good reasons to produce some kinds of data at the state level. First, the state has greater capacity to develop and manage effective systems, and can take advantage of the efficiencies of scale that locally developed and implemented systems cannot provide. A state system is also needed to keep track of children who are highly mobile and often in the greatest need of services. State-level data are also needed to inform state-level policy decisions, such as how to distribute resources across programs and geographical regions, and to address such questions as what kinds of ECE programs are effective for which children under what circumstances.

Workforce

There is widespread agreement among early education leaders that the state should produce more useful data on the early childhood workforce.[34] Currently little is known about the population of ECE teachers or leaders—their compensation, benefits, educational attainment, relevant professional qualifications, and participation in quality improvement (QI) programs. A recent Learning Policy Institute report claims that “without these data, it is nearly

impossible to know which children have highly qualified educators, how educator quality is related to compensation, or the impact of investments in educator development and training."[5] (Note that answering the question about which children have qualified educators would require linking individual child and workforce data.)

A recent report by the Center for the Study of Child Care Employment elaborates on the consequences of the absence of data on the EC workforce:[6]

> …without knowledge of the educational distribution of the workforce across settings and by demographic characteristics, it is nearly impossible to estimate the proportion of the incumbent workforce that might need to pursue more education in response to new degree requirements or to assess the distance between current levels of educational attainment and degree completion. Without these data, stakeholders lack the ability to gauge the capacity of higher education institutions to respond to demand. Furthermore, it is impossible to appropriately craft and sufficiently fund policies to ensure equitable access to opportunity for advancement among those from historic minority communities currently underrepresented or overrepresented in various educator roles. (p. 5)

The last study of the early childhood workforce in California was conducted in 2006, and many changes have occurred since then.[7] In the absence of more current data on the EC workforce, it is not possible to assess the effects of policy decisions on the nature and quality of the most important element of children's early childhood education experience—their teacher.

A 2011 report Center for the Study of Child Care Employment proposes that the following information should be included:[8]

Characteristics of the people caring for the young children in the state:

- age, gender, ethnicity, language capacity;
- level of education and training;
- length of time working in the field and at current workplace, wages and benefits; and
- place of work and children served

Variations in access to education and professional development opportunities by:

- geographic region or characteristics;
- program setting or funding source;
- ages or other characteristics (language, special needs) of children served; and
- practitioner characteristics, such as education/training background, language skills of the workforce, and tenure

In addition, data on availability and participation in quality improvement activities would help policy makers identify which kinds of programs are in most demand, where there is duplication, and where there are unmet needs.

The National Workforce Registry Alliance is another source of recommended data for workforce registries,[9] as are the INQUIRE data toolkit[10] and The Common Education Data Standards initiative.[11]

In the 2017 report from the Center for the Study of Childcare Employment, Whitebook and her colleagues explain that a workforce registry containing these kinds of information would allow the state to address questions such as the following:[12]

- How does the demographic profile of the workforce change when qualifications are increased?
- How do current educational attainment, access to professional development opportunities, and educational supports like scholarships differ by geographic region and practitioner characteristics, including education/training background, language skills, and tenure?

- How do characteristics of the workforce vary by program setting or funding source and by the ages or other characteristics (language, special needs) of the children served?
- How do training and professional development affect teachers' practices and child outcomes?
- Which practitioners remain in their positions or workplaces or in the field?

California has an online workforce registry that collects this kind of data—the California Early Care and Education Workforce Registry. The Registry is a web-based system designed to track the qualifications, demographics, education, and professional development of early childhood professionals.[13] Individuals can transfer their portfolios electronically to new employers. Use of the Registry is not, however, required, and it probably includes no more than about 20% of early childhood professionals in the state.[14]

With foundation support from the David and Lucille Packard Foundation and the Mimi and Peter Haas Fund, in 2011 First 5 Los Angeles collaborated with the City and County of San Francisco to expand the CA ECE Workforce Registry to a statewide system. Since then First 5 LA, with other partners, has been funding and leading the expansion of the Registry, which is overseen by the Child Care Alliance of Los Angeles. Currently San Francisco, Los Angeles, and Santa Clara counties have fully implemented the Registry. Even in these counties, however, only people who participate in professional development training funded by the California Department of Education (CDE) are required to enroll. A recent report by the Learning Policy Institute states that the Workforce Registry used in some counties could grow to become a statewide system, but the report warns that for it to be useful, all ECE providers must be required to use it and it needs to be funded to keep it up to date.[15] The Center for the Study of Child Care Employment provides examples of states with "promising practices" related to early childhood workforce data collection that could be examined as possible models.[16]

Children

It would be useful to have data both for following children's development over time and for identifying children's needs and the services and resources they receive. All of the stakeholders we interviewed emphasized that a statewide data system should include unique child identifiers (as children have in K-12) and integrate information across all ECE programs. Erin Gabel of First 5 California commented that the unique student identifier should be "delivery system agnostic" and be able to link the various types of institutions and services children receive. Children could be given their identifier at any entry point into the system, and could keep it through high school. The kind of child-related data needed and their potential uses are summarized below.

Programs and services. Decisions about resource allocation would benefit from information about how many children receive different combinations of services. Currently, however, it is impossible to know how many services any given child receives in California or for how long. For example, it cannot be determined how many children are enrolled simultaneously in Head Start and a local program run by a school district, including special education programs. Because children have a different identifier in each program, children who participate in multiple programs, or who enter, leave, and reenter programs, are counted separately each time. Consequently, there is no way to know even how many children are being served.

More ambitious than keeping track of the education services children receive would be a secure state-wide system that includes comprehensive data from different sectors for children prenatally through grade 12. An integrated data system that combines data from health, social, and educational sectors could be used to identify early indicators of problems and assess the long-term effects of particular health-related and social factors in children's development. It would be particularly useful for children with special needs, who often require services from multiple agencies.

A model of an integrated system was developed by the Children's Data Network—a data and research collaborative that links and analyzes administrative records from various California agencies.[17] The initiative is designed to generate knowledge to inform policies that will improve the health, safety, and well-being of children. Currently most of the data come from the California Departments of Social Services, Public Health, Health Care Services, and Developmental Services, and focus on health and safety. But the network could be expanded to include data on children's participation in early childhood education programs. The Children's Data Network has experimented with linking participation in subsidized ECE programs, state-subsidized child care for families receiving CalWORKs, and the child welfare system in Los Angeles County. The effort has revealed substantial overlap in the children and families served by different systems, suggesting the potential for targeting resource allocations and creating more effective and efficient collaborations between systems.

If a commitment is made to create a statewide, cross-sector database, there are organizations prepared to provide technical support. Stewards of Change is a national organization focused on helping create interoperable data sets from health, education, and human service agencies and the courts.[18] Their goal is to assist in creating connections among data collected in different sectors to provide a holistic picture of individual children and to allow users to assess how experiences related to one sector (e.g., health) affect developmental outcomes in others (e.g., education). The organization has already begun working with leaders in California from First 5 LA, the Mental Health Services Oversight and Accountability Commission, the California Health Care Foundation, the California Health & Human Services Agency, and the Lucile Packard Foundation for Children's Health.

Achievement. Currently California does not systematically collect achievement data on children until the third grade, when standardized testing begins. Teachers in programs licensed under Title 5 complete the Desired Results Developmental Profile (DRDP) on all children, but the ratings reside at the program level. There are no required assessments in TK through second grade. Some districts implement commercially available assessments or create their own for these early elementary grades, but the assessments vary widely and are not aggregated outside the school or district. The value of collecting and examining achievement data for children before they enter school and through the early elementary grades is supported by the GDTFII report by Sean Reardon and colleagues. Their analyses reveal that California's comparatively wide achievement gap is substantially explained by the size of the gap before third grade and to some degree before kindergarten.[19] Because preschool data are not linked to school achievement data in the later grades and no systematic assessments exist for TK through second grade, it is not possible to track children's progress through those critical early years or assess the early emergence of the achievement gap.

Superintendent Jack O'Connell's California P–16 Council in 2008 recommended that data from pre-K be included in the California Longitudinal Pupil Achievement Data System (CALPADS).[20] Similar recommendations have been repeated in many other reports on early childhood education in California.[21] Such a policy would require children to have a unique identifier that followed them pre-K-12. This would serve many purposes. First, it would allow the state, districts and schools to assess both the short- and the long-term impacts of interventions and policy changes. In combination with other data, many policy-relevant questions could be answered. For example, which dimensions of development assessed in preschool predict achievement in school? Do changes in permit requirements for early childhood teachers lead to children's improved academic performance in the short and long term? Does early intervention lead to better academic outcomes for children with specific disabilities? Do children who were in early childhood programs with high QRIS ratings fare better in preschool and beyond than children who attended lower-rated programs?

Second, following children from preschool into elementary school would give teachers information for planning curriculum and instruction. Currently, transitional kindergarten and kindergarten teachers can seldom access data from preschool, and as a result, they cannot adjust the instructional program from the beginning of the school year to be appropriate for

their students. Data on children's success in the early elementary grades would also be useful to preschool educators to inform the changes needed to prepare children effectively for school.

Suspensions and expulsions. Data on suspensions and expulsions from preschool are needed to determine the extent and nature of the problem in early childhood education programs in California. As noted in Chapter 2 of this report on children with disabilities, there is evidence that suspensions and expulsions may be a significant problem for some groups of children, and more detailed and reliable data will help address the issue.

Programs

Policy decisions clearly require basic knowledge of what programs are offered in the state, how many children are served by them, and what and where the unmet needs are. Data are also needed on the quality of programs and efforts to improve quality. We summarize here the data that California collects and where they are insufficient.

Programs and children served. California collects administrative data on early education and social services, including, for example, the number of children participating in state preschool, transitional kindergarten, voucher programs, and state-contracted centers. The California Department of Social Services also collects state licensing data, including the location, capacity, setting (center or home), and ages served by licensed child care providers. In addition, California requires counties and programs to collect data about the supply of licensed care slots and enrollment in state ECE programs, including state preschool, state-funded migrant programs, and vouchers administered through the Alternative Payment program and General Child Care and Development. The federal government collects Head Start and special education enrollment data.

The California Resource and Referral Networks (R&Rs) maintain large databases related to early child care, including data on the type of facility, schedules, language options, cost, and capacity of the facility.[22] They also publish a biennial report that includes the supply and demand of early child care. Local R&Rs assist in gathering child care data for this report. The estimates of demand are based on data on the labor market participation of parents **and the** percentage of parent requests to licensed care facilities for child care by age of child reported by the local R&Rs.

Although a considerable amount of data is collected, there are inadequacies. The data from different programs are not all aggregated at the state level. And without unique identifiers, some children are double-counted. It is also difficult to access participation information for children with special needs. Finally, some of the data collection burden falls on the counties, but without adequate funding. The data are thus incomplete and sometimes unreliable.

Unmet need*.* Efforts to ascertain unmet need are fragmented and insufficient. Every five years, Local Child Care and Development Planning Councils are required to conduct a

comprehensive child care needs assessment by analyzing the availability and need for child care in their counties, and then to generate a strategic plan for ECE. According to a recent LPI report, of 10 counties studied, only four had completed the needs assessments within the past five years, and only Los Angeles and Sacramento had made the data available to the public.[23] In addition to improving the frequency and thoroughness of the data collection, special attention must be given to the unmet needs of children with disabilities.

Quality. The only indicator of quality beyond licensing status is the QRIS rating, but only a small proportion of programs participate (see Chapter 5). In 2015, First 5 California and the California Department of Education partnered to develop a common data upload system for sites participating in QRIS. In addition to QRIS ratings and information on quality improvement activities, the system includes data on program funding, languages spoken by providers, and number of children served. A few counties, including San Francisco and San Mateo, have developed their own data systems into which program data can be uploaded; some others use Pinwheel, a readymade data system.

Resources for quality improvement (QI) are highly decentralized. Data on the use of QI programs and activities are captured by the Workforce Registry, but as mentioned above, most people in the ECE workforce do not register. Requiring people who participate in CDE-funded professional development training to enroll in the Registry will improve the data on QI participation, but the data will still be incomplete. As a consequence, it is currently impossible to determine who takes advantage of QI opportunities and where there is an oversupply versus an unmet need. It is also impossible to assess the effects of different forms of QI programs on the quality of teaching or children's outcomes.

Eligibility and Available Slots

In addition to information on the quality of the programs, as mentioned above, families would benefit from a centralized system for determining and maintaining information on eligibility. Easily accessible information on what programs in their locality they are eligible for and which of those programs have space available would also be helpful. Information on space for children with disabilities would be especially useful. In addition to supporting parents, this information could lead to efficiencies for the state. For example, if a family knew that a full-day state preschool slot was available, it could use that less costly option rather than combining state preschool with a child care voucher.

These data probably do not need to be aggregated at the state level, but support is needed to collect and maintain them at the local level. From 2007 until 2011, local R&Rs maintained centralized eligibility lists for the county, which helped them link eligible families to providers with available space. Funding for these lists was eliminated in the recession, however, and now only some counties (e.g., Sacramento, San Francisco) run a centralized eligibility list using local funds cobbled together.[24] In most counties, each program runs its own wait list, so families often have to contact many programs to find one with space. In addition to making it easier for families to find the programs they need, reinstating the funding for centralized

eligibility lists would help providers recruit families, which would reduce the cost and inefficiency of operating programs below capacity.

Qualities of the Data System

Our interviews with administrators and policy makers in California revealed general agreement about the criteria that an effective statewide data system should meet. They proposed that such a system should be:

1. **Comprehensive:** The data system would include the full range of providers offering publicly-funded services in order to provide a comprehensive picture of the field.
2. **Dynamic and flexible:** The data system would be dynamic and account for children and families who move within California.
3. **Efficient:** The data system should minimize duplication of data collection and of people on eligibility lists. It should also minimize the reporting burdens of programs while maintaining accountability.
4. **User-appropriate:** The data system would provide different interfaces to different groups of users, depending on the information they require and have permission to access.
5. **Secure:** Given the potential sensitivity of data around individual children and parents, the threshold for data security should be very high.

The Early Childhood Data Collaborative (ECDC) recommends that a coordinated ECE state data system include the following elements:[25]

1. Unique statewide child identifier;
2. Child-level demographics and program participation information;
3. Child-level data on development;
4. Ability to link child-level data with K-12 and other key data systems;
5. Unique program site identifier with the ability to link with children and the ECE workforce;
6. Program site structural and quality information;
7. Unique ECE workforce identifier with ability to link with program sites and children;
8. Individual-level data on ECE workforce demographics, education, and professional development information;
9. State governance body to manage data collection and use;
10. Transparent privacy protection and security policies and practices.

An Integrated State System

Data are fragmented in different ways in California. First, they are fragmented by program. For example, data from state preschool, Head Start, transitional kindergarten, and General Child Care and Development programs are not integrated. These education program data should be either linked or centralized in one system.

Second, some data reside at the state level, while other data reside at the county or program level. The locations of the data are not necessarily based on rational decision making. The experts we interviewed agreed that the state needs to support and oversee data collection, but that decisions about which specific data production and analysis should sit at the state versus the local level need to be based on usage and efficiency. Regardless of where the data reside, the experts believed that the state needs a unified system along with local capacity to collect and use data.

A third form of fragmentation concerns the different strategies and technologies being used to collect and house data. Counties, for example, have built their own systems for collecting, compiling, and analyzing data. A few counties, such as San Francisco and San Mateo, have built their own data systems that integrate local ECE data sources, but most counties lack the resources and capacity to do this. Furthermore, having individual counties engage in this kind of technical design work is inefficient and results in fragmented systems that cannot always be integrated at the state level. Those that have tried to develop their own systems have met many difficulties. For example, the Bay Area QRIS Partnership, a consortium of five counties, has encountered technical barriers to accomplishing its goal of developing a regional QRIS data system and are struggling with software and vendor problems.

An important question related to addressing the problem of fragmentation is whether a statewide early childhood data system should be a single platform, or whether it could integrate multiple systems such that the data become mutually intelligible. Interviewees pointed out that the multiple existing systems at the local level are similar in content, but that somewhat different types of data are collected, in different formats and with different degrees of consistency. These databases are also unevenly linked to each other. Some of those interviewed thought that finding a way to connect extant systems made more sense than starting over. As David Dodds of First 5 California put it: “I'm more concerned about having common data that could be integrated statewide than about whether it comes from one data system or three.” But it is clear that a great deal of work would need to be done to make sure the data are compatible.

Interviewees also supported the idea, mentioned above, of linking data from different sectors, so that the California Department of Social Services’ database of licensed early child care providers could be linked with data from the Department of Public Health’s home visiting program, the California Workforce Registry, the QRIS data systems, and the Resource and Referral network. They acknowledged, however, that decisions about which data to link depend on the policy questions that need to be answered, and that decisions about the integration of data should be guided by policy concerns.

When asked about a state database that parents could use, Michael Olenick, CEO of Child Care Resource Center, pointed out that a centralized eligibility list does not obviate the need for local lists: “The centralized eligibility list helps the state…determine what the demand is, but it doesn't really help the local providers in terms of being able to sell their spaces.”

Instead, he suggests exploring "something that [is] more local that could feed information into a state-wide tracking piece, rather than having just a state-wide eligibility piece."

Challenges and Concerns about Building a New State System

The stakeholders we interviewed mentioned the fragmentation of the current data systems as a significant challenge for the state. The fragmentation of the data is substantially a consequence of the fragmentation of the service delivery system. In addition to variations in practice that can be difficult to reconcile for data collection purposes, there is variability in definitions and categorizations. For example, "half-day" may mean 2½ hours in some programs and 3½ in others. "Infants and toddlers" may cover children 0-2 years or 0-3 years. Creating a more streamlined system with shared definitions of ECE services should help advance the cause of a more coherent system of data.

But more will need to be done to create a coherent data system. Not only do extant data systems vary in structure and the level at which they reside, but a recent Learning Policy Institute report also cautions that the numbers reported across systems are not reliable. Many children are double-counted, and the data do not accurately reflect children with special needs, dual language learners, children in foster care, or homeless children. Linking these systems and making them reliable and mutually intelligible are significant technical challenges and will require considerable expertise and human resources.

Another challenge is the cost. Currently, counties draw from a combination of federal, state, and local investments that are insufficient, are not always reliable, and contribute to the fragmentation of data. The current situation is also inefficient. Because many counties do not have the technological expertise to create a system, they pay for commercially available data systems, such as Pinwheel, that are very expensive to build and to maintain. Although funding is currently directed to various data systems around the state, they still function for the most part in silos. As Michael Olenick commented: "the piece that … connects them all together isn't there and hasn't been funded." The experts interviewed believed that federal and state funds are required for a sustainable and effective data system.

One technical challenge our interviewees mentioned is ensuring data security. The data are highly sensitive because they relate to individual children, families, and vulnerable social groups, including those living in poverty, immigrants, and undocumented families. The interviewees pointed out the critical importance of the security of these types of data. In addition to security, privacy issues require staff to understand their role in keeping data private and secure.

Maintaining up-to-date information on the database about waiting lists, eligibility, and the availability of space is particularly challenging. Doing so requires providers to update their information regularly. Providers may be reluctant to share their waiting lists, fearing that they would risk losing families to another facility. Scott Moore of Kidango commented that in a previous local effort to establish a centralized eligibility list, it took so long to determine

eligibility that some available slots stayed open although many families were eligible to fill them.

An important consideration in developing a data system is its use. Sirinides and Coffey make the important point that collecting and providing access to data is not sufficient. Equally important is ensuring users' analytic capacity to understand and use the data to inform decision making.[26] Whitebook and her colleagues make a similar claim: "Collecting all the data in the world is pointless if no one is using this information."[27] Analyzing data requires staff time and expertise, which can pose further challenges. The LPI report cites Jean-Marie Houston, the Early Learning Support Services Administrator at the San Mateo County Office of Education, who claims that her team was "swimming in data" and working to figure out how to use it strategically and effectively.[28] Houston elaborated that "This is an underfunded system and data entry, data analysis, data cleaning all take a lot of time."

Regenstein points to the importance of engaging the eventual end users of a data system at the very beginning to make sure that the design of the system meets the needs of its audience.[29] He lists at least six kinds of capacity that need to be considered: the capacity to continue producing data; the capacity for policy makers to analyze data; research capacity; advocacy capacity; community-level capacity; and provider-level capacity. He suggests that one way for states to develop the capacity for data analysis is to collaborate with a university. Illinois, for example, established The Education Systems Center at Northern Illinois University.

To support states in their efforts to analyze data, the Consortium for Policy Research in Education at the University of Pennsylvania launched the ECDataWorks project with grant funding from the W. K. Kellogg Foundation.[30] This project provides technical, financial, and organizational support for improving policy makers' use of data related to early childhood programming and policy. The project's goal is to build states' analytic capability through new tools that close the gaps in early childhood data use. Another resource is the Data Quality Campaign, an advocacy organization for education data.[31]

Model Data Systems from Which California Can Learn

These challenges can be overcome, but doing so requires the political will to make an integrated data system a priority and to provide the resources needed. Several states in the US have made efforts to link various systems of data that are clearly relevant to early childhood, so that they can be used productively by policy makers, families, and service providers. Across the country, at least 37 states are working toward developing Early Childhood Integrated Data Systems, and a handful have operational systems.[32] Among the states that our interviewees mentioned as having more advanced early childhood data systems are Pennsylvania, Illinois, North Carolina, Maryland, Massachusetts, Indiana, Minnesota, and Georgia. These are all states from which California can learn.

One example of an easily accessible system of data is the Illinois Early Childhood Asset Map (IECAM), which brings together data on early care and education from state agencies

(birth through age 5), Head Start, and the private sector in addition to community demographic information that can be used by federal, state, and local government agencies to inform the allocation of resources in Illinois.[33] The system was designed to 1) assist policy makers and legislators in allocating resources for early care and education programs, 2) make public resource allocation transparent by showing the changes in funding of services from year to year, and 3) provide a one-stop source for early learning and demographic data. IECAM provides a quick snapshot of where children birth through age 5 years live and the capacity of the services available to them. It also presents demographic data, including the population, poverty level, linguistic backgrounds, and employment characteristics of families with children.

The Pennsylvania system, called PELICAN, is the most comprehensive and advanced state system.[34] A partnership between the Pennsylvania Department of Public Welfare and the Office of Child Development and Early Learning developed a data system that links data across agencies and is linked to the K-12 school system. The system includes indicators of children's learning and development, as well as data from services and on the early childhood workforce. The purpose of the system, similar to what has been discussed in this chapter, is to allocate resources to address needs and issues effectively by enabling a continuous tracking of children, evaluating and monitoring programs, understanding the nature of the workforce, and learning about the needs of families. Because Pennsylvania is so far ahead of other states in creating an early childhood education database, additional information on its history and functions is provided below.

The US Department of Health and Human Services and the Department of Education jointly released a report that describes the mechanics of developing a unified state early childhood data system.[35] It also provides case studies of some leading states. Regenstein describes many other resources available to guide the development of state EC data systems in his "Unofficial Guide to the Why and How of State Early Childhood Data Systems."[36]

Conclusions

Investing in a comprehensive data system that exists at or can be aggregated to the state level would require a substantial commitment of resources in the short term. In the long term, however, it would be more efficient than the fragmented set of disconnected data currently collected and could be used to make policy decisions that lead to more efficient and effective uses of resources and better outcomes for children.

California could build on data systems developed in some counties and existing statewide data systems such as the Workforce Registry. The work that other states have done to create and use a statewide data system could also inform efforts in California. In brief, there are lessons to be learned from counties in the state and from other states, and models that California could consider adopting. The first step is for California to determine what it wants out of an early learning data system. It can then develop a plan for designing and building that system, drawing on the lessons of other states.

Pennsylvania's Early Childhood Data System

Background

Pennsylvania's Enterprise to Link Information for Children across Networks (PELICAN) is a data partnership between the Pennsylvania Department of Public Welfare and Office of Child Development and Early Learning that was formed to develop a data system that links data across agencies.[37] The database, which was initially created to support child care licensing in Pennsylvania's Department of Human Services (DHS), serves as a data-entry point and is connected to a range of other databases, including those for child care subsidies, special education, and state preschool. When child care providers are licensed, they receive a Master Provider Index number (MPI), and all information about the provider is entered in PELICAN. Other components have been subsequently added to PELICAN to complement this licensing system.

In 2007 Governor Rendell created the state's Office of Child Development and Early Learning (OCDEL) by merging early-childhood related programs in the DHS and the Pennsylvania Department of Education (PDE) in order to integrate programs related to young children. Marnie Aylesworth, Executive Director of The Pennsylvania Key,[2] explained in a personal interview that with the creation of the OCDEL, there was a need for a system that could connect data across PELICAN and PDE networks. The OCDEL introduced the Early Learning Network (ELN), a web-based platform that contains data about children, parents, and programs that fall under the purview of the OCDEL.[38] The ELN data relates to state-run early childhood education programs, which include Pennsylvania Pre-K Counts, Head Start, School-district Pre-K, and STARS and Early Intervention. The ELN was created with support from the William Penn and other foundations. The database is designed to be useful to stakeholders in early childhood education, including families, program administrators, advocacy and community groups, legislators, and researchers.[39] Deloitte Consulting LLP was hired to create and implement the data system. In 2009, service providers began to be given access to it in stages.

Types of Data

In the PELICAN system, each child receives an identifier called the Master Child/Client Index number (MCI). When the child enters the K-12 system, the MCI is supposed to be linked to an identifier from the PDE to ensure continuity in data about the child. At present this linking takes place unevenly, as discussed below. Child-related data also include demographic data, eligibility and referrals for child care services and Pre-K Counts, enrollment in state-funded programs, assessments, and outcomes. The Head Start State Supplemental and Pre-K Counts programs are required to gather some information about children and families, such as family income, level of parent education, and risk factors.

[2] The Pennsylvania Key is a business partner to the OCDEL and helps implement the Office's policies and supports for child care providers.

The service provider data include the MPI, staff benefits and turnover rates, classroom quality rating scores, subsidy information, and early intervention services.[40] The MPI is a location-based identifier that contains operational information, including details about the grant structure of the program and the grantee name and location.[41] This gives providers, who enter information about themselves, access to the data on the system. The system also records program quality information, including license violations. The unique child identifier (MCI) is linked to the program identifier (MPI), making it possible to identify which children go to which programs. Information about STAR program quality is stored in this database. The STAR system also tracks child attendance, and this information is linked to the subsidy system, allowing subsidies to be based on attendance.

Teacher-level or workforce-related data are currently collected under the Professional Development Registry but are not mandatory, which makes the data less reliable overall for purposes of policy making.

Purposes

The data system is designed to help its users understand multiple facets of early childhood services, including child outcomes, program improvements, risk factors, and access to programs. Its purpose is to aid decision making related to program quality, interventions, resource allocation, and professional development of the workforce.[42]

The data are supposed to include assessment of children's development. However, says Aylesworth, the system is currently not highly reliable for this purpose because of the variety of child assessments used. One of the goals in the near future is to improve the reliability of assessment and child outcome data. The PELICAN data are much more reliable, Aylesworth states, when it comes to fiscal issues—how much money is invested and how many children are being served by subsidies.

Governance and Confidentiality

PELICAN has a four-tiered governance system: Steering Teams; Project Teams and Change Control Boards; Sub-project Teams; and Stakeholder Groups.[43]

The Early Learning Network Advisory Committee is governed by the OCDEL. ELN falls under an advisory group called the Early Learning Council, comprised of researchers and various stakeholders in early education. The data are subject to the protections of the Health Insurance Portability and Accountability Act (HIPAA) and the Family Educational Rights and Privacy Act (FERPA). Access to data in the system depends on a person's individual role and the information required to work and make decisions in that role. For example, while individual teachers require data about the children they teach, administrators may need data about multiple programs they oversee. Confidentiality is maintained by aggregating data when necessary. Aylesworth explains that Deloitte can update reporting requests, but that its consultants don't look at child-level data.

Links to K-12

The original goal of the system was to link the ELN to the K-12 data system, and eventually to the higher education and workforce systems. This linked system envisions a unique child identifier and a unique teacher identifier. Currently the MCI is not consistently linked to the PA Secure ID that children receive in the K-12 system. As a result, says Aylesworth, there is duplication of child identifiers in the early child services systems and the K-12 system, and a lack of continuity when the child enters the K-12 system.

Challenges

The initial challenge to creating an integrated data system was proving the need for it. This task was taken on by advocacy groups who implemented sustained education campaigns that explained the need. A second challenge was overcoming resistance to including personal information in a state system. A third challenge was the time that providers have to invest to update the information on the system. Other challenges included technical difficulties in the platform and the cost associated with the ambitious integration of various databases. Two continuing challenges with using the data in PELICAN are the uneven linking to the K-12 system and the less than robust data on the workforce and child assessment.

Potential

Despite the challenges that such an ambitious system poses, it also provides a foundation for analyzing data across systems and making policy decisions. PELICAN reports can indicate how many children are being served by state-funded programs in any given county in the state. A comparison of PELICAN data with census data helps identify gaps in access to child care services. Currently the data are also used to create wait lists for children receiving subsidies and to leverage that information to raise the necessary resources. If the workforce and child outcome data become more robust, the data can eventually provide a more accurate picture of the effectiveness of different policies, as well as the needs, challenges and possibilities.

Appendix A: Experts Interviewed for this Chapter

Marnie Aylesworth, Executive Director of The Pennsylvania Key

David Dodds, Deputy Director of Evaluation, First 5 CA

Erin Gabel, Deputy Director of External and Governmental Affairs, First 5 CA

Elsa Jacobson, Director of Public Policy, Child360

Scott Moore, Chief Executive Officer, Kidango

Sarah Neville-Morgan, Director, Early Education and Support Division, California Department of Education

Mike Olenick, President and CEO, Child Care Resource Center, LA

Susan Savage, Director of Research, Child Care Resource Center, LA

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