

# The Early Care and Education Workforce

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*Deborah Phillips, Lea J. E. Austin, and Marcy Whitebook*

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## **Summary**

In this article, Deborah Phillips, Lea Austin, and Marcy Whitebook examine educational preparation, compensation, and professional development among the early childhood workforce. Their central theme is that these features look very different for preschool teachers than they do for the elementary school teaching workforce.

Most teachers of kindergarten through third grade can count on clear job requirements, professional development opportunities, workplace supports such as paid planning time, and a transparent and rational salary structure based on qualifications and experience. These teachers often earn a wage that approaches the median income in their communities.

For most preschool teachers, Phillips, Austin, and Whitebook write, the situation is very different. Job requirements and qualifications vary wildly from program to program and from state to state. Professional development is both scarce and inconsistent. Compensation often fails to reward educational attainment or training; in fact, many preschool teachers are among the lowest-paid workers in the country. Poor compensation fuels turnover, which means that society loses investments in professional learning, and produces economic insecurity and stress among preschool teachers.

The crux of quality in early childhood education lies squarely in the interactions that transpire between teachers and children, the authors write. Thus it's long past time, they argue, to recognize prekindergarten through third grade as a continuum that requires a seamless system of professional learning and compensation tied to qualifications, including education. To move beyond incremental improvements in the quality of early care and education, they conclude, empirical research, intervention, and policy alike should focus on the preparation, professional development, compensation, and wellbeing of early childhood teachers.

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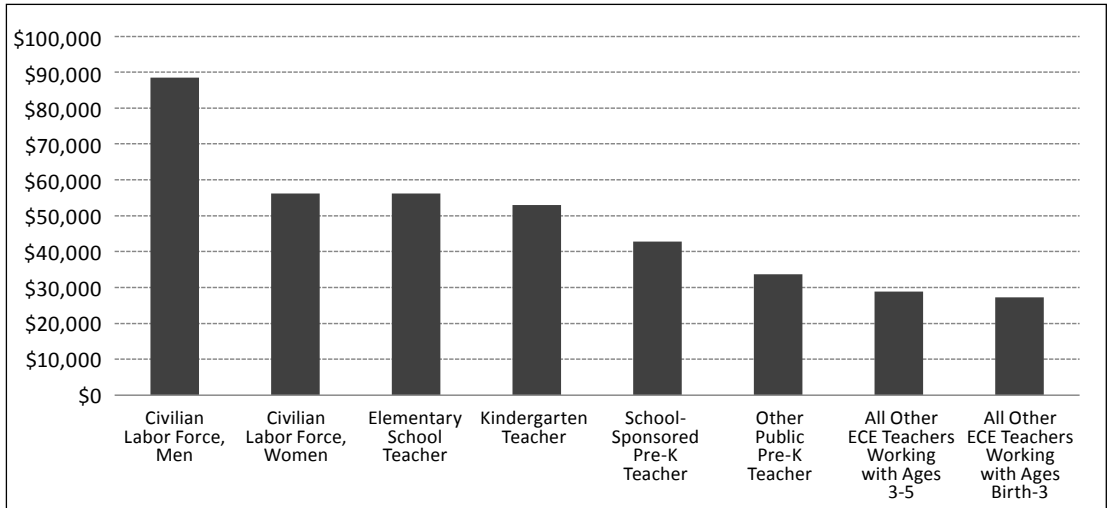
**E**arly childhood teachers constitute the linchpin of quality in prekindergarten through third grade. Yet they are some of the most erratically trained and poorly paid professionals in the United States. The contradiction inherent in this characterization of the early care and education workforce, and its implications for the wellbeing of the millions of young children in early childhood care, has been addressed by three National Academies reports that span 25 years.<sup>1</sup> In 1990, the report *Who Cares for America's Children?*<sup>2</sup> stated that “quality child care also requires settings and conditions that value adults as well as children.”<sup>2</sup> In 2000, the Committee on Integrating the Science of Early Childhood Development, in *Neurons to Neighborhoods*, agreed that “good quality care requires an environment that values adults as well as children.”<sup>3</sup> In 2015, the Committee on the Science of Children Birth to Age 8 argued, “It is through the quality work of these adults that the nation can make it right from the very beginning for all of its children.”<sup>4</sup> These statements capture the scientific community’s longstanding concern that when it comes to policies and practices affecting the nation’s early education workforce, the stakes are high.

This article paints a portrait of this workforce with respect to educational preparation, compensation, and professional development. A central theme is that these features look very different for preschool teachers than they do for the elementary school teaching workforce. We also examine the relatively sparse evidence on what this portrait implies for teachers’ wellbeing, classroom practices, and stability.

## The US Early Childhood Landscape

The characteristics of the workforce responsible for the care and education of young children from birth through the first years of elementary education have fluctuated wildly over the years. During World War II, for example, more than three thousand federally funded child care centers linked to the war effort routinely employed certified teachers, recognizing their dual role in supporting working mothers and educating young children.<sup>5</sup> Fifty years later, legislation authorizing the Child Care and Development Block Grant subsidy program for low-income families tied teacher qualifications in federally subsidized child care centers to state child-care regulations that typically required, at best, a high school degree.<sup>6</sup> Today, the early care and education teaching workforce ranges from people without a high school degree to people with graduate training. Some teachers get evidence-based in-service training and coaching; others have no access to professional learning opportunities. Some teachers earn a living wage that approaches the median income in their communities, while others are among the lowest-paid workers in the country.<sup>7</sup> Child care programs themselves rely on different funding streams, exist in different types of settings, and serve different populations of children. Not surprisingly, the pathways into the early childhood workforce, the opportunities for professional development, and the compensation and other work supports together have been characterized as “perpetuating a cycle of disparity.”<sup>8</sup> To make sense of this vast workforce, we need to understand the fragmented goals, structure, and funding of the field in which its members work. This fragmentation

**Figure 1.** Mean Annual Salary of Civilian Labor Force and of Teachers with a BA or Higher, 2012



Source: Marcy Whitebook, Deborah Phillips, and Carollee Howes, *Worthy Work, STILL Unlivable Wages: The Early Childhood Workforce 25 Years after the National Child Care Staffing Study* (Berkeley: Center for the Study of Child Care Employment, University of California, Berkeley, 2014).

derives from diverging historical trajectories of K–12 and prekindergarten care and education. These diverging trajectories reflect very different assumptions about educational programs before and after children formally enter school regarding their purpose, how they’re funded, their clientele, and their personnel systems for teachers.

Public education for all children from kindergarten or first grade through high school was established more than a century ago as a public good, guaranteeing universal access to free services. Key features of personnel systems, such as qualifications, compensation, and working conditions, are relatively uniform for K–12 teachers throughout the United States, and they rely on well-established funding streams.<sup>9</sup> States and types of schools (public, charter, and private) share a wide consensus that elementary through high school teachers should obtain at least a bachelor’s degree, be specifically qualified to teach the subject matter for which they’re responsible, and earn a living wage (albeit a wage that

remains below the national average for all BA-educated workers; see figure 1).<sup>10</sup> In public schools, teachers must also get provisional certification before they begin teaching, and they typically participate in an induction or mentoring program for new teachers, followed by continuing professional development.<sup>11</sup>

Preschool care and education, in contrast, has yet to be fully embraced as a public good. As a result, most early care and education programs operate in a private market, supported largely through parent fees.<sup>12</sup> Programs funded with federal, state, and local government dollars are designed primarily to serve children considered to be at risk for poor school performance because of poverty, involvement in the child welfare system, or disabilities.

Among publicly funded programs, some aim primarily to meet the needs of low-income working adults; thus they emphasize access, flexibility, and cost. This has been the case with programs such as

the Child Care and Development Fund, the subsidy program authorized by the Child Care and Development Block Grant as part of the effort to move welfare-dependent families into the paid labor force. Other publicly funded programs (for example, Head Start and state prekindergarten programs) aim primarily to help low-income children develop and to get ready for school; they emphasize learning opportunities and support services.

Until recently, welfare-linked child care hasn't been seen as requiring a professional, knowledgeable, or decently paid teaching workforce; rather, providing safe care and warm interactions has been considered sufficient.<sup>13</sup> Qualifications for teachers in subsidized child-care centers in most states still reflect this perception that the work is unskilled. Of 50 states, 34 require that child care teachers have only a high school education, or less.<sup>14</sup> Preschool programs that focus on school readiness, in contrast, depend on teachers' capacity to support early learning and healthy development—their knowledge and skills are integral to setting young children on a path toward success in school and, ultimately, economic independence. Accordingly, many states set higher qualifications for teachers in state prekindergarten programs than for those working in subsidized child-care centers. In 2015, 33 of 57 state prekindergarten programs required teachers to have a bachelor's degree.<sup>15</sup> The 2007 Head Start reauthorization required that at least 50 percent of Head Start teachers have a bachelor's or advanced degree in early childhood education by 2013, fueling a notable increase in the educational qualifications of Head Start teachers (see below).

## Characteristics and Conditions of the Early Childhood Workforce

The demographic profiles of the early childhood and K–12 teaching workforce differ substantially, aside from the fact that both consist primarily of women. Among the approximately one million members of the center-based early childhood teaching workforce, slightly more than one-third (63 percent) are people of color. In contrast, 84 percent of the more than three million K–12 teachers are white.<sup>16</sup> The two workforces also differ in their educational attainment and compensation.

### Educational Attainment

Reflecting the relatively uniform educational requirements for K–12 teachers across school districts and states, in 2015 the vast majority (92 percent) of elementary and middle school teachers held at least a bachelor's degree. About 47 percent held at least a master's degree.<sup>17</sup> In contrast, in 2012 the 568,000 center-based teachers serving three- to five-year-old children reflected a much wider range of educational backgrounds: 45 percent held a bachelor's degree or higher, 17 percent had completed a two-year associate degree, 24 percent had completed some college, and 13 percent had completed high school or less.<sup>18</sup> Despite the variation, these levels of higher education far exceed the relatively low bar set by state child care regulations for teachers working with children before they enter school. Educational attainment is lower among center-based teachers who work with children from birth to three years old, but it's still somewhat higher than state the requirements would suggest. In 2012, 28 percent of infant-toddler teachers had completed only high school or less, but 17 percent had earned an associate degree and

19 percent had earned bachelor's degrees or more.

The proportion of teachers with a four-year degree varies by the type of early childhood program and the funding source. As of 2012, we see the highest proportion of lead teachers with a bachelor's degree or higher (76 percent) in state-sponsored prekindergarten programs and the lowest in for-profit center-based early care and education (25 percent in independent facilities and 50 percent in chains). Roughly half of lead teachers in Head Start and in nonprofit community-based and religious-based programs had earned bachelor's or higher degrees.<sup>19</sup>

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### *Child-care workers have experienced no increase in real earnings since 1997.*

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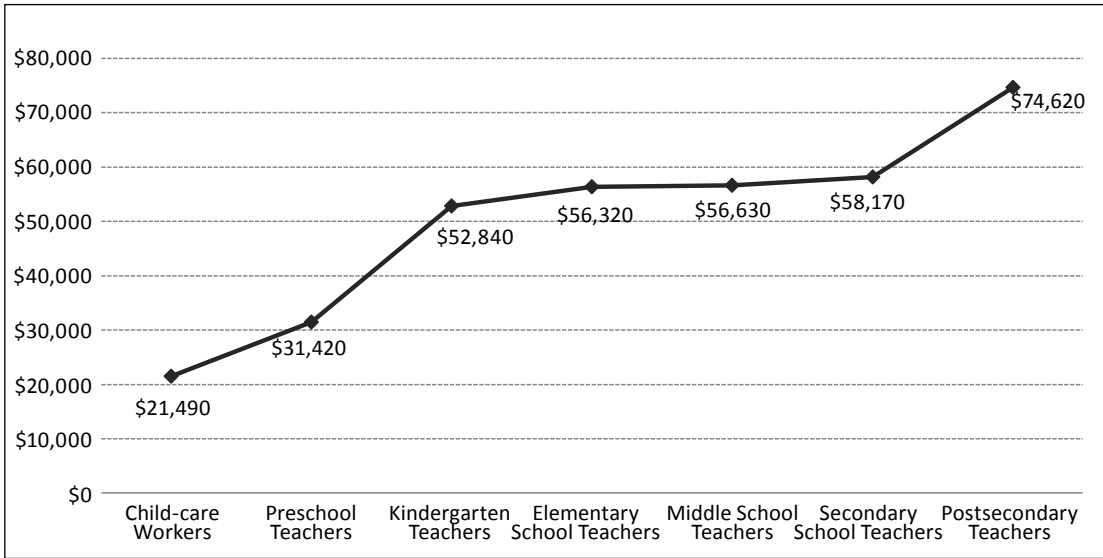
#### **Compensation**

Most K–3 teachers, a few prekindergarten teachers, and all teachers who work in the Department of Defense child care system can count on clear job requirements, professional development opportunities, workplace supports such as paid planning time, and a transparent and rational salary structure based on qualifications and experience.<sup>20</sup> Most teachers who work with children before they enter kindergarten, however, don't fare as well. For many early childhood teachers, compensation fails to reward educational attainment or training. Poor compensation fuels turnover, which means that society loses investments in professional learning, and produces economic insecurity and stress among preschool teachers.

A recent examination of US Census data revealed the following:<sup>21</sup>

- Child-care workers—defined by the Bureau of Labor Statistics as people who “attend to children ... and perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play”—have experienced no increase in real earnings since 1997. Their average hourly wage was \$10.20 in 1997 and \$10.33 in 2013 (in constant 2013 dollars). Child care workers earn less than adults who take care of animals, and barely more than fast food cooks—a situation that may change to the detriment of child care workers as minimum wage requirements increase for fast food and service employees. Among workers whose wages are tracked by the US Department of Labor, child-care workers fall in the third percentile.
- Preschool teachers—defined by the Bureau of Labor Statistics as people who “instruct preschool children in activities designed to promote social, physical, and intellectual growth needed for primary school”—have fared somewhat better. Their wages, though they remain low, have increased by 15 percent in constant dollars since 1997 and now average \$15.11 per hour. They fall in the 19th percentile of workers.
- Kindergarten teachers have seen a 7 percent increase in wages over the same 16-year period. They now earn an average of \$25.40 per hour and fall in the 60th percentile of workers.
- From 1997 to today, child-care workers have earned about two-thirds of what preschool teachers earn, an income that falls barely above the poverty level for

**Figure 2.** Mean Annual Salary of Teachers, by Student Age/Grade Level, 2013



Source: Marcy Whitebook, Deborah Phillips, and Carollee Howes, *Worthy Work, STILL Unlivable Wages: The Early Childhood Workforce 25 Years after the National Child Care Staffing Study* (Berkeley: Center for the Study of Child Care Employment, University of California, Berkeley 2014).

a family of three. Today, among teachers with bachelor’s degrees, community-based public prekindergarten and Head Start teachers earn only two-thirds of what kindergarten teachers earn, and even teachers in school-sponsored prekindergartens earn 80 percent of kindergarten teachers’ income (see figure 2), illustrating the very low reward for educational attainment that characterizes the preschool workforce.<sup>22</sup>

These broad statistics don’t capture the vast variation in teacher wages by type of program and funding source.<sup>23</sup> In the context of an overall 19 percent increase in real wages between 1990 and 2012 for all center-based teachers, wage growth ranged from 3.6 percent in public school-sponsored programs to more than 29 percent in independent, nonprofit, or government-run programs. Still, hourly wages are highest for teachers in public school-sponsored centers, followed closely by those in Head Start centers. These

two sectors, however, constitute less than one-quarter of all center-based preschool programs.<sup>24</sup> For-profit programs, which constitute about one-third of programs serving three- to five-year-olds, pay the lowest wages.

Data from Head Start Program Information Reports for 1997 to 2013 are especially revealing regarding the absence of an educational premium for early childhood teachers. Since 1997, the share of Head Start teachers with a two- or four-year college degree has increased by 61 percent (to 95 percent of teachers), and the share of assistant teachers with a degree has increased by 24 percent (to 30 percent of assistant teachers).<sup>25</sup> Yet the wages of Head Start teachers and assistant teachers grew by only 17 and 11 percent, respectively, between 2007 and 2013. Moreover, most of this wage growth occurred prior to 2007, after which wages for both groups of teachers increased by only 1 percent.

## Implications of the Gap between Education and Compensation

No researchers have studied how the persistent mismatch between education and compensation in early care and education affects teachers' motivation to get more education or training (absent an explicit requirement), or their motivation to remain in the field once they get a degree. Associations between low wages and teacher turnover, on the other hand, have been well documented, as have associations between job stress and turnover.<sup>26</sup> Lead classroom teacher turnover in Head Start is now at 25 percent per year.<sup>27</sup> In 2012, the National Survey of Early Care and Education examined departure rates "among staff who work directly with children."<sup>28</sup> Departure rates in different types of programs ranged from 8 to 27 percent. About half of all centers saw at least one staff member depart during the study year; among those centers, rates of departure ranged from 21 to 31 percent. These preschool-teacher turnover rates are notably higher than those for K–3 teachers, which in recent years have been in the range of 7 to 8 percent.<sup>29</sup>

The costs of turnover and retraining new employees haven't been examined or built into estimates of the cost-effectiveness of pre-K education, and thus they remain hidden. Studies of other industries estimate the cost associated with replacing and training a new employee due to turnover at about 20 percent of the earnings associated with that position.<sup>30</sup> The costs to sustained improvement in instruction for young children can be easily imagined, although they're impossible to calculate—data on the career trajectories of people in the early care and education workforce who get more education or professional development are

either incomplete or not collected.<sup>31</sup> The costs to children are implied by correlational evidence that links higher teacher turnover rates to poorer-quality teacher-child relationships.<sup>32</sup> The costs to the wellbeing of the early care and education workforce and to the various forms of public assistance they must rely on are only beginning to be documented.

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## Economic Insecurity among the Early Childhood Workforce

Preliminary evidence from the Supporting Environmental Quality Underlying Adult Learning (SEQUAL) teacher questionnaire suggests that economic insecurity is endemic among preschool teachers in many types of childhood centers.<sup>33</sup> A recent study in a large southeastern state asked early childhood teachers to identify how worried they were about finances along a 6-point scale, where 1 equaled no worries and 6 equaled strong worries; the average score was 3.7.<sup>34</sup> About 60 percent had scores of 4.0 ("somewhat worried") or higher. The teachers were particularly worried about retirement savings, paying monthly bills, paying for routine health care for themselves and family members, housing and transportation costs, and (among nearly half of respondents) having enough food for the family.<sup>35</sup> Teachers with more education were less worried than

others; nonetheless, 42 percent of those with an associate degree or higher reported worrying about having adequate food for their families.<sup>36</sup> Of those with at least one child under the age of 18, 57 percent reported worrying about having enough food.

What are the potential consequences for young children of high economic insecurity and other sources of stress among their teachers? Recent research on teachers' mood, stress, teacher-child interactions, and children's experiences (in both preschool and elementary classrooms), has begun to give us some answers.<sup>37</sup> Children form developmentally essential relationships not only with their parents and other family members, but also with other regular caregivers, including early childhood teachers. Like relationships with parents, these relationships can either expose children to or buffer them from harmful stress and its consequences. Teachers who are more depressed and more stressed have been observed to be less sensitive, more intrusive, and harsher in classroom interactions with children.<sup>38</sup> They're also more likely to portray their relationships with the children in their care as conflictual, and they're more prone to consider and act on expelling preschool-age children.<sup>39</sup> Research has extensively documented the consequences for young children of having teachers who are less sensitive and less responsive.<sup>40</sup> Some of these consequences are substantial. For example, children cared for by unsupportive, intrusive, and insensitive teachers display elevated levels of the stress hormone cortisol, greater anxiety and vigilance in their child-care program, and compromised immune functioning; their parents report that they suffer more frequent infections.<sup>41</sup>

Economic insecurity also means that some child-care workers turn to public income supports. Data from the US Bureau of Labor Statistics show that child-care workers are almost twice as likely as the average American worker to rely on public support (46 percent versus 25 percent).<sup>42</sup> The annual cost to the nation between 2007 and 2011 amounted to \$2.4 billion in expenditures on the Earned Income Tax Credit, Medicaid, the Children's Health Insurance Program, food stamps, and Temporary Assistance for Needy Families. About half of people who work primarily with preschool-age children in this national sample had their own children under 18; among this subgroup, participation rates were particularly high. Four out of five of these workers whose youngest child was under five participated in public support programs, as did two out of three workers in single-parent families with children from five through 18 years of age. Child care workers who earned less than the proposed federal minimum wage of \$10.10 per hour were one and a half times more likely to rely on public assistance than were their counterparts who earned more.

In sum, society's expectations of the early childhood workforce have never been higher. Meeting these expectations requires that all teachers have access to and are consistently rewarded for efforts to improve their professional practice, whether through higher education or professional learning opportunities.<sup>43</sup> Yet the evidence suggests that these basic requirements are far from being met. We lack sufficient empirical evidence on how this situation affects the quality of classroom practice, the effectiveness of investments in professional development, and children's early learning and development.



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### Professional Preparation and Development

Our nation lacks a professional learning and development system for prekindergarten through third grade. At best we have two systems—a chaotic system for the prekindergarten workforce and a more rational and coherent system for K–3 teachers, with only a thin band of overlap that affects the approximately 6 percent of prekindergarten teachers who are based in elementary school systems and thus integrated into their elementary schools' professional development and wage structures. Teachers who work in Head Start, Early Head Start and Department of Defense early childhood programs receive required and continuous in-service professional development, but no research tells us whether these training systems are effective.<sup>44</sup>

If we want to improve the professional preparation and development of early childhood teachers, we would ideally begin with a deep understanding of how these teachers foster healthy early development and learning, and of the competencies they need to do so. As the science of early childhood development has advanced, so too has our understanding of the complex

demands that early childhood teachers face. In essence, early childhood teachers are responsible for three interrelated goals: to provide young children with high-quality interactions and environments for early learning; to protect them from the consequences of stress, disruption, and chaos that can arise both outside and within the classroom; and to prepare them to grow up and make meaningful contributions to a highly diverse society.<sup>45</sup>

In a 2015 report, *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation*, the National Academies drew on research and professional expertise to underscore the complexity of working with children during the first eight years of life, and to recommend ways to strengthen professional preparation standards for early childhood practitioners and for colleges and universities.<sup>46</sup> The report called on higher education programs to give students foundational knowledge about development and learning throughout a child's first eight years, in addition to differentiated instruction for specific age ranges and subjects. It also issued a call to develop and enhance interdisciplinary higher education programs for early care and education professionals, including practice-based and supervised learning opportunities.

However, efforts to carry out these and earlier recommendations for early childhood teacher preparation have been stymied by inconsistent evidence regarding links between teachers' education levels and children's developmental outcomes; by persistent attitudes that educating children before kindergarten requires less expertise than educating early elementary students; and by resistance to paying the added costs to support and sustain a better educated

preschool workforce.<sup>47</sup> The net effect is that although all states agree that teachers in K–3 classrooms (and beyond) should obtain at least a bachelor’s degree, there is no consistent educational floor for teachers who work with younger children. With the exception of those who work in state prekindergarten programs, it’s rare for teachers of preschool-age children to be individually licensed or certified.<sup>48</sup> Colleges and universities have designed their programs that prepare teachers of children in grades K–3 in response to codified expectations from state boards of education and school districts, as well as from well-defined teacher roles. Programs that focus primarily on training teachers of children from birth to age five, on the other hand, have evolved without coordination, shared views of what skills are essential, or oversight. When we contrast this bifurcated system of teacher preparation and compensation with the extensive developmental evidence that the pace and substance of learning before children formally enter school is no slower or less consequential than it is during the early elementary grades, the mismatch is staggering.

The challenges of evidence, attitudes, and funding notwithstanding, people who study early education generally agree that developmental science—reflected in rising expectations of what preschool education can and should accomplish—can help us figure out what knowledge and skills preschool teachers need. We also know that if we want to ensure high-quality preschool education that promotes early learning and development, simply requiring teachers to have a bachelor’s degree isn’t sufficient. Teacher preparation must be effective and evidence based.

It’s daunting to assess the quality, purpose, and content of formal early childhood preparation. Historically, any course of study within one of several disciplines focused on children of any age has been considered an acceptable form of teacher preparation.<sup>49</sup> Too often, very different higher education programs are assumed to produce equivalent results. National accreditation standards for early childhood teacher-preparation programs could encourage reform and strengthen higher education programs.<sup>50</sup> But because accreditation is voluntary, less than one-quarter of US early childhood degree programs at the associate, baccalaureate, or graduate level have been awarded accreditation.<sup>51</sup> Moreover, we have minimal evidence that accreditation is closely linked with better teacher preparation or better outcomes for children.<sup>52</sup>

Recently, researchers have assessed the quality of early childhood higher education programs—and how these programs affect teachers’ practice in early childhood classrooms—using a tool developed at the University of California, Berkeley, called the Early Childhood Higher Education Inventory. Their work has revealed both a lack of uniformity in what constitutes early childhood teacher preparation and a gap between the National Academies’ recommendations and the great variety of preparation programs.<sup>53</sup> Across the seven states assessed with the inventory, early childhood higher education programs reported different and often vague goals (for example, “to prepare students for multiple roles involving young children”); in no state was preparing teachers and administrators the primary goal of all early childhood degree programs.<sup>54</sup> Associate degree programs were most likely to require courses about infants and toddlers as well as preschoolers, but they

seldom focused on children in kindergarten or higher grades.<sup>55</sup> In contrast, bachelor's and graduate degree programs, although less likely to require courses about infants and toddlers, consistently required a focus on preschoolers, and were most likely to cover children in kindergarten or higher grades.<sup>56</sup>

Colleges and universities that train early childhood teachers have long been criticized for the variability of their course content.<sup>57</sup> Critics point to a paucity of coursework on the latest science of child development, family engagement, and adult learning; uneven coverage of academic instruction, notably math education; minimal training for teaching dual language learners and children with special needs; field-based learning that isn't connected to coursework and has dubious educational value; low faculty quality and diversity; and the difficulty of moving from two-year to four-year institutions.<sup>58</sup>

Moreover, despite widespread agreement that field-based learning is critically important for teachers who work with children of all ages, the different education and certification requirements for teachers across the birth-to-age-eight spectrum affect the availability and structure of such experiences.<sup>59</sup> Early childhood preparation programs share no standard of field experience for student teaching—defined as full-time immersion in a classroom, with increasing responsibility for curriculum planning and teaching, and supervision by a cooperating teacher. For example, while all bachelor's degree programs in New Jersey include a student teaching requirement, only 32 percent of such programs in California do so. Nor do standards guide practicums—short-term experiences associated with a course, often focused on a particular skill or population of children and supervised by a

faculty member or mentor.<sup>60</sup> In Nebraska, for example, all bachelor's degree programs require a practicum, while only 87 percent of such programs in California do so. Associate, baccalaureate, and graduate programs alike have inconsistent rules about the timing of the first practicum in a student's course of study; moreover, the number of on-site hours typically required for completing a practicum course ranges from only a few to more than 100. Although practicums are the most common type of field-based learning that early childhood degree programs require, particularly at the associate degree level, their inconsistent application makes it hard to assess whether such experiences offer students the depth and diversity of experiences or feedback they need to develop their teaching skills.

Our portrait of teacher preparation in the early childhood field, even within institutions of higher education, reveals a system that encompasses highly variable educational opportunities of uneven quality that are accessed by a vast variety of individuals through very different entry points. Such great variability makes it even harder to examine the impact of simply having or not having a particular degree or certification. As this reality has become increasingly apparent, those who study professional preparation in early care and education have begun trying to identify the essential ingredients of effective professional learning, offered through various in-service approaches, and to design and evaluate effective models and approaches.

In 2013, a joint statement by the Foundation for Child Development and the Society for Research in Child Development summarized the most promising evidence on this topic, stating that “intensive, developmentally focused curricula with integrated professional

development and monitoring of children's progress offer the strongest hope for improving classroom quality as well as child outcomes during the preschool years."<sup>61</sup> This so-called strongest hope model is further characterized by coaching at least twice a month, in which an expert teacher—in person or by video—gives feedback and support for in-classroom practice. Indeed, recent randomized evaluations of professional development approaches that do and don't include consultation suggest that the consultation component has added benefits.<sup>62</sup> The inextricable link among curricula, professional development, and regular monitoring of individual children's progress to guide teachers' practice is increasingly well documented by research focused on preschool-age children.<sup>63</sup> The central conclusions of this research are that curricula are only as effective as the professional development that accompanies them and that teachers' capacity to adapt curricula to children's individual learning trajectories represents a critical element linking what's on paper and what teachers are trained to do.

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*Curricula are only as effective as the professional development that accompanies them.*

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Other recent summaries of this evidence have further refined our understanding of effective professional learning approaches. These approaches include coaching and mentoring; workshops, training, and courses; reflective practice; learning networks; and communities of practice. They can be delivered through a similar variety of

mechanisms, including training embedded in classroom practice, offsite training in a college or other setting, or technology-based instruction.<sup>64</sup>

In sum, whether early childhood teachers can meet high expectations will hinge largely on whether we align the content of their professional training and development—and the infrastructure that surrounds it—with the knowledge and skills that the science of early development now tells us are essential to teachers' effectiveness. We must also acknowledge that a more coherent, evidence-based, accessible, and equitable system of professional development for early childhood teachers won't be sufficient to ensure high-quality early care and education for all. That will require us to tackle the intertwined factors related to recruiting talent into the field, the compensation and working lives of the early care and education workforce, and the high turnover rates that characterize the profession.

### **New Directions for Research, Practice, and Policy**

We offer three areas for the next stage of empirical work directed at pressing questions of policy and practice regarding the early childhood workforce.

First, evidence at the intersection of neurobiology, developmental science, and early education carries vast implications for how we think about children's early childhood teachers—their influence on early development, their responsibility in managing many children's first encounters with peers and situating most children's first experiences in an instructional environment, and the importance of their own knowledge, skills, and wellbeing. We need a much deeper understanding of the personal, workplace,

and economic supports that teachers require if they are to carry out these responsibilities competently and consistently. And we sorely need to experiment with interventions that focus on teachers' economic wellbeing and mental health.

Second, we need to focus on the bifurcated professional development and compensation systems across the preschool and early elementary grades, as well as on the virtual lack of a system across the wide array of preschool programs. As more preschool teachers acquire higher degrees, for example, are talented teachers seeking higher pay by leaving preschool for elementary school classrooms, and perhaps leaving community-based preschool programs for programs based in schools? Such a trend could, in turn, contribute to the weak associations we see between degree attainment and child outcomes.

Third, scientific inquiry into professional development for early childhood teachers is developing rapidly. A growing number of experimental studies are attempting to find the most critical elements of professional development in this field, and whether approaches from one early education system can be generalized to another. We agree with several recent reports about the need to:<sup>65</sup>

- better understand the connections between the factors in higher education that are considered to be most effective and the teaching practices and outcomes of graduates;
- develop new tools to assess teacher performance that can be modified through professional learning processes and that capture a greater share of the variance in student outcomes;

- study leadership in the field and how it fosters improved practice via professional learning; and
- identify the features of coaching and coaches that are associated with significantly improved professional practice.

Another area that warrants much greater attention from researchers involves the divergent needs of early childhood teachers with different cultural, educational, and experiential backgrounds, and what these differences imply for professional development.

With regard to policy and practice, we note two crucial issues. First, we've seen major advancements in the education and training of Head Start staff, the integration of coaching and other professional development opportunities into state quality rating and improvement systems, the availability of scholarships for college education and engagement in professional development, and the engagement of colleges and universities in various state initiatives that aim to improve the competence of the early childhood workforce. But these important efforts haven't been accompanied by policies to improve compensation. For example, among the National Institute for Early Education Research's 10 measures of high-quality state preschool programs, five focus on teaching staff; all five deal with teacher qualifications, and compensation isn't included.<sup>66</sup> Similarly, the 2007 Head Start reauthorization addressed education and training but was silent on compensation. Typically, when money is set aside to promote quality, expenditures are allowed on a range of initiatives,

including both professional development and compensation. When we track these expenditures, we see serious investments at the state level with regard to professional learning opportunities. But investments in compensation and working conditions lag far behind.<sup>67</sup> A 2015 analysis of how states implemented the federal Early Learning Challenge grants concluded that “inadequate compensation and lack of workplace supports persist as the greatest challenges and the ‘elephant in the room’ that is not being directly addressed.”<sup>68</sup> When a grant program explicitly mentions compensation, as the Preschool Development and Expansion Grant Program did, almost all recipients offer a plan to improve compensation.<sup>69</sup> Our strongest policy recommendation is that legislation or regulations should firmly link requirements or incentives for improving professional learning to salary equity and improved working conditions.

With regard to practice, it’s long past time to recognize prekindergarten through third grade as a continuum that requires a seamless system of professional learning and compensation tied to qualifications, including education.<sup>70</sup> Teacher preparation and credentialing systems at the state level should be updated to ensure that all teachers of young children have credentials that align with research-based knowledge about young children’s learning needs and capacities. This process will be successful only to the extent that it recognizes the growing diversity of the children in early childhood classrooms with regard to culture, language, and special needs. An effective teacher-preparation system also depends heavily on a coordinated higher education system that’s aligned with the same research-based knowledge and that recognizes the same realities about today’s early childhood population.

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*Our strongest policy recommendation is that legislation or regulations should firmly link requirements or incentives for improving professional learning to salary equity and improved working conditions.*

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## Conclusions

The crux of quality in early childhood education lies squarely in the interactions that transpire between teachers and children.<sup>71</sup> Teachers, in turn, guide these interactions.<sup>72</sup> Effective early childhood teachers are purposeful, intentional, and reflective in their instructional strategies. They deploy proactive management strategies, attend and respond to individual differences among the children in their classrooms, offer all children consistent emotional availability, and sustain a positive classroom climate. You might say that early childhood teachers blend the skills of air traffic controller, conflict negotiator, party planner, detective, and, of course, educator. To fulfill the promise of early education, we need professional development systems and practices that help teachers carry out these responsibilities. Children’s competence, resilience, and tolerance are at stake.

To move beyond incremental improvements in the quality of early care and education, empirical research, intervention, and policy alike should focus on early childhood teachers—their preparation, development,

compensation, and wellbeing. One central challenge for progress is the persistent gap between the prekindergarten and K–3 educational systems, which affects the vast majority of the early childhood workforce and raises profound equity issues. Another is the fragmentation and historic disparities in sponsorship, funding, and policy structures that plague the prekindergarten workforce

and the preschoolers and families who rely on this workforce. The central opportunities for progress lie in the growing national recognition that early childhood education plays a vital role in the lives of children and the wellbeing of society, and that early childhood teachers are essential to ensure that early childhood education's vast potential is realized.

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