

RESEARCH REPORT

Early Childhood Educator Compensation in the Washington Region

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WASHINGTON REGION EARLY CARE AND EDUCATION WORKFORCE NETWORK

The Washington Region Early Care and Education Workforce Network is a collective partnership of local governments, higher education, and non-profit groups from across the Washington region who are committed to developing a regional competency-based career pathway for early childhood educators that is linked to quality and compensation. The Network is part of a larger national initiative of state groups that seek to improve the position of the early care and education workforce, with technical assistance from the National Academy of Medicine. The Network is the only group of its kind working to address equity issues within the early care and education workforce across state lines, including membership from across Washington, DC, southern Maryland, and northern Virginia. The work of the Network is funded by Washington Area Women's Foundation's Early Care and Education Funders' Collaborative.

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Cover image by Tim Meko.

Executive Summary

High-quality early learning environments that support children's healthy development depend on the knowledge and competencies of those who work with young children. The Institute of Medicine and National Research Council articulated the need to transform the fragmented early care and education (ECE) workforce into one with adequate compensation and opportunities for professional development and advancement in their 2015 report, *Transforming the Workforce for Children Birth through Age 8: A Unifying Foundation*. To facilitate state and local efforts to transform the workforce to better serve young children, it is important to understand the ECE workforce and systems, including the compensation landscape, at a regional level.

This study examines the compensation of early childhood educators in the Washington, DC, metropolitan region and considers the costs, benefits, and potential strategies associated with achieving parity with public school kindergarten teachers. It is one of several studies commissioned by the Washington Region Early Care and Education Workforce Network (the Network) to inform and support its efforts to help realize the recommendations in the *Transforming the Workforce* report. More generally, this report speaks to the ongoing debate over addressing persistently low ECE compensation as part of a broader strategy of professionalizing the workforce and improving quality across diverse early learning settings.

Research Questions

This study examines the current state of ECE compensation in the Washington region, addressing five research questions of interest to the Network:

1. What is the compensation of public school kindergarten teachers in the Washington region?
2. What is the gap between early childhood educator and public school kindergarten teacher compensation (with comparisons across educators in school settings, other center-based settings, and family child care)?
3. What are the additional compensation gaps by gender and by ethnic and racial subgroups within the ECE workforce?
4. What are the costs and benefits associated with closing the compensation gaps?
5. How have other states, localities, or sectors addressed similar compensation gaps?

Defining Early Childhood Educators Using Existing Data Sources

To address these questions, this study draws on a combination of national survey data, regional public school pay plans, interviews with subject matter experts, and a targeted review of relevant literature. Because “early childhood educator” is a relatively new term used to denote professionals working with young children across a variety of settings, existing survey data do not use this occupational category. Instead, the data divide the workforce into those working in the “preschool teacher” and “child care worker” occupations. Our analyses use federal occupation and industry codes available in American Community Survey (ACS) data to report on the following types of educators:

- center-based educators coded as preschool teachers
- center-based educators coded as child care workers
- family child care educators
- school-based educators

We combine data across these four categories to estimate early childhood educator compensation, focusing on those who work with young children in center-based programs, family child care, or before- and after-school settings. Our analysis does not include compensation of educators in prekindergarten programs located in elementary and secondary schools because of data limitations explained in the report. Compensation for center-based teaching assistants is analyzed separately at the end of the compensation analysis.

Data limitations also restrict our analysis to wages and health insurance and not the full range of compensation, which includes other benefits. One of the strengths of the ACS data is that they allow us to conduct a regional analysis focused on the six jurisdictions included in the Network: Washington, DC; the City of Alexandria, VA; Arlington County, VA; Fairfax County, VA; Montgomery County, MD; and Prince George’s County, MD. Further strengths, limitations, and caveats of our data are documented in the report and its technical appendix.

Compensation of Early Childhood Educators

Our analysis of data from the ACS five-year file (2011–15) reveals the following key findings about ECE workforce compensation (expressed in 2016 dollars):

- **Annual earnings and hourly wages.** Early childhood educators in the Washington region earn \$17,711 a year on average. This translates to \$15.25 an hour, taking into account the usual hours that these educators work. These analyses do not include center-based teaching assistants, who earn a lower average of \$14.49 an hour.
- **Race and ethnicity gaps.** There are dramatic differences in hourly wages by race and ethnicity. Hispanic educators make \$4.30 per hour less, on average, than white educators (\$13.55 versus \$17.85). Black educators (\$15.01) make more than Hispanic educators but less than white educators. In other words, Hispanic educators earn just 75 cents on average for every dollar earned by their white counterparts, and black educators earn 84 cents to the dollar.
- **Parity.** Average hourly wages for early childhood educators are much lower than wages for even entry-level public school kindergarten teachers. We estimate an average hourly wage of \$27.36 for entry-level kindergarten teachers in the Washington region, based on our analysis of local public school pay scale plans and assuming a 10-month work year (1,733 hours). Although there are multiple ways to define compensation benchmarks for the ECE workforce, compensation of public school kindergarten teachers is a common benchmark.
- **Hourly wages by setting.** Center-based educators coded as preschool teachers are the highest-earning occupational group (\$16.99 per hour), followed closely by family child care educators (\$16.06). School-based educators and center-based educators coded as child care workers have the lowest hourly wages (\$13.78 and \$13.34, respectively).
- **Hourly wages by district.** Average hourly wages are highest in Washington, DC, and Montgomery County (\$17.32 and \$16.45, respectively) and lowest in Prince George's County (\$13.69). Hourly wages are \$14.76 in Fairfax County and \$13.89 across Arlington County and Alexandria. Because these findings are based on a household survey, the jurisdiction credited is the educator's county or city of residence and not necessarily their place of work.
- **Health insurance coverage.** Overall, 52 percent of early childhood educators in the region have health insurance from their employer or their spouse's employer. Center-based educators coded as preschool teachers and school-based educators have the highest rates of employer-sponsored health insurance coverage (63 and 60 percent, respectively), followed by center-based educators coded as child care workers (53 percent) and family child care educators (37 percent).
- **Gender gaps.** Women make up the overwhelming majority of early childhood educators (94 percent), and they earn a higher hourly wage of \$15.33 compared with men (\$13.96 per hour).

However, men have higher rates of employer-sponsored health insurance coverage (63 versus 49 percent).

Costs and Benefits of Closing Compensation Gaps

The second chapter of our findings provides estimates of the potential costs of closing compensation gaps and describes the short-, medium-, and long-term benefits of doing so. Our key findings include the following:

- **Compensation gaps.** We find a \$12 gap between the average hourly wage for early childhood educators (\$15) and entry-level public kindergarten teachers with no experience (\$27). The gap is \$10 per hour for center-based educators coded as preschool teachers, who make \$17 per hour on average, and \$13 per hour for other educators, who earn an average of \$14 across all settings.
- **Annual costs of increasing wages.** Increasing the hourly wages of the nearly 30,000 early childhood educators in the Washington region to \$27 per hour would cost \$464 million, assuming no change in the number of educators or hours worked (an average of 1,291 per year). This includes \$122 million to increase the wages of center-based educators coded as preschool teachers and \$342 million to increase the wages of those coded as child care workers. Costs would be considerably higher if the benchmark for parity were kindergarten teachers with 5 or 10 years of experience. Costs would also be different if the supply of or demand for early childhood educators adjusts along with the change in wages.
- **Costs of increasing compensation.** Closing early childhood educator compensation gaps would also involve increasing access to benefits such as health insurance and pensions. Only about half of all early childhood educators in the Washington region use employer-sponsored health insurance, whereas all six jurisdictions in the region offer health insurance to teachers.
- **Benefits of closing the gaps.** Better compensation would allow ECE programs to attract a more skilled workforce and reduce turnover. This would, in turn, improve the quality of early learning programs and lead to better development outcomes for children. At the same time, the economic conditions of early childhood educators and their families would also improve, and the resulting decreases in their poverty and receipt of public benefits would mean savings for taxpayers.
- **Long-term economic benefits.** Improved child outcomes stemming from higher-quality early learning environments would have long-term economic benefits, including increases in children's educational attainment and higher local economic growth driven by a more educated workforce.

Strategies for Closing Compensation Gaps

We conclude by summarizing strategies used in other states and localities to address similar compensation gaps and highlight key considerations for compensation improvement initiatives:

- **Types of strategies.** Several state and local strategies have incrementally improved the compensation landscape. These strategies fall into two broad categories: (1) *direct compensation strategies* that direct funding to increasing wages or benefits and (2) *indirect compensation strategies* that seek to increase compensation by addressing factors associated with higher compensation, such as improving teacher education or incorporating compensation into quality rating standards. Both direct and indirect approaches may be funded through a variety of mechanisms but are distinguished by the nature of the policy design.
- **Policy considerations for compensation initiatives.** Our interviews and review of the literature on ECE compensation suggest that the following considerations can inform a strategic approach to compensation initiatives:
 - » **Addressing both wages and benefits.** Although many initiatives focus on improving wages, compensation also includes key benefits such as health insurance, retirement, paid leave, and paid planning time. Both wages and access to benefits are low among the ECE workforce and contribute to turnover in the field.
 - » **Addressing base compensation at all levels with stable funding streams.** Strategies that grant temporary or periodic salary supplements can provide financial support and encourage professionalization, but they do not constitute reliable, ongoing financial relief. This is especially true if they are not part of stable, permanent funding streams or have low benefit amounts, limiting eligibility criteria, or burdensome reapplication requirements.
 - » **Addressing compensation across settings and ages served.** Although low compensation is an issue in the field overall, it varies considerably by setting and ages of children served. Some strategies may be appropriate for specific segments of the workforce, but a comprehensive initiative would address the needs of educators across all settings and age groups.
 - » **Providing mechanisms for linking superior qualifications and competencies with increased compensation.** Common indirect compensation strategies focus on supporting professional development. Absent steps to explicitly link education to defined competencies and better wages and benefits, there is no assurance this strategy will improve compensation.

- » ***Aligning strategies with an understanding of educators' needs.*** Engaging ECE practitioners and stakeholders when developing strategies can ensure that policies are designed to meet educators' needs.
- » ***Evaluating the level of public investment in the ECE system.*** An overarching challenge to sustainably increasing compensation is that the ECE system is a complex patchwork of public and private funding streams at the federal, state, and local levels. With parents already facing high costs of care, it will be difficult to substantially improve compensation without investing more public funds.

Introduction

High-quality early learning environments that support children's healthy development depend on the knowledge and competencies of those who work with young children. The Institute of Medicine and National Research Council articulated the need to transform the fragmented early care and education (ECE) workforce into one with adequate compensation and opportunities for professional development and advancement in their 2015 report, *Transforming the Workforce for Children Birth through Age 8: A Unifying Foundation*. This report provided broad-reaching and ambitious recommendations for professionalizing the ECE workforce.

To facilitate state and local efforts to transform the workforce to better serve young children, the National Academy of Sciences has led a national implementation network of states working to address the key issues identified in the 2015 report. The Washington Region Early Care and Education Workforce Network (the Network) was one of the first state networks and represents different sectors of the ECE workforce in Washington, DC, and areas of northern Virginia (the City of Alexandria, Arlington County, and Fairfax County) and Maryland (Montgomery County and Prince George's County). The Network has been developing a regional, competency-based career pathway document for early childhood educators as part of its broader effort to professionalize the ECE workforce and improve services for young children in the Washington region (The Network 2016). To inform and support its work, the Network has commissioned several studies on different aspects of the ECE workforce and related systems.

For this study, the Network asked the Urban Institute to examine the compensation of early childhood educators in the Washington, DC, metropolitan region. It also asked for information on the costs, benefits, and potential strategies associated with increasing compensation to achieve parity with public school kindergarten teachers. In addition to informing the work of the Network, this report speaks to the ongoing debate over addressing persistently low ECE compensation as part of a broader strategy of professionalizing the workforce and improving quality across diverse early learning settings.

Background

Early childhood is a critical time of development, laying the foundation for skills, behaviors, and health in adulthood. Positive development is fostered by secure relationships with adults who have the knowledge and competencies needed to nurture children from infancy through their early elementary

years. Children’s development and learning are undermined when the adults that care for them are underprepared and underpaid and their learning environments are subject to high turnover (IOM and NRC 2015).

National studies consistently show that early childhood educators receive lower wages and benefits than comparably educated workers in other occupations and that public school–based providers are better compensated than their counterparts in other settings (DOE and HHS 2016; Gould 2015; NSECE 2013; Rhodes and Huston 2012; Whitebook, Phillips, and Howes 2014). Despite the growing recognition that the quality of early learning environments is critical for children’s development beginning at infancy and the recognized link between educator compensation and quality, educators serving infants and toddlers earn even less than others in the field (Whitebook, Austin, and Amanta 2015). Research also shows that the ECE workforce is dominated by women of color, and African American educators are especially underpaid. One national study found that African American educators earn just 84 cents on average for every dollar earned by their white counterparts (Ullrich, Hamm, and Herzfeldt-Kamprath 2016). Because of persistently low wages and limited access to employer-sponsored benefits, early childhood educators experience disproportionately high rates of poverty and dependence on public assistance programs (Gould 2015), and the workforce has relatively high turnover rates (Dastur et al. 2017).

Recent studies in the District of Columbia have found that many early childhood educators earn less than they would as fast food or retail employees and have uneven access to employer-sponsored benefits (Great Start DC 2011). A large majority express anxiety about their ability to pay monthly bills (Berman et al. 2017). ECE workforce studies in Virginia (VECF 2017) and Maryland (Klein et al. 2016) have also documented relatively low earnings and variation across settings. However, there has not been an extensive study of ECE workforce compensation in the metropolitan Washington, DC, region. Our analysis fills a critical gap in knowledge and provides a framework for thinking about the costs and benefits of improving compensation for the ECE workforce and strategies to do so.

Research Questions

The analysis addresses five key research questions of interest to the Network:

1. What is the compensation of public school kindergarten teachers in the Washington region?
2. What is the gap between early childhood educator and public school kindergarten teacher compensation (with comparisons across educators in school settings, other center-based settings, and family child care)?

3. What are the additional compensation gaps by gender and by ethnic and racial subgroups within the ECE workforce?
4. What are the costs and benefits associated with closing the compensation gaps?
5. How have other states, localities, or sectors addressed similar compensation gaps?

Data Sources

This study draws on a combination of quantitative and qualitative data sources to answer the research questions listed above. To summarize, we analyzed the following sources:

- **The American Community Survey (ACS).** The ACS is a nationally representative household survey fielded by the US Census Bureau, with information on respondents' geographic location based on where people live. We combined data from the 2011–15 surveys (with income converted to 2016 dollars) to analyze early childhood educator compensation in the Washington region and subregional areas and draw a national comparison.
- **Regional public school pay plans.** Most school districts publish some form of pay plan or compensation schedule. In collaboration with the Washington Region ECE Workforce Network Steering Committee, we collected public school pay plans or compensation schedules for each of the six jurisdictions in the Network. These allowed us to identify kindergarten teacher wages in public school settings based on tenure and other factors.
- **The Occupational Employment Statistics (OES).** The OES is a nationally representative employer survey fielded by the Bureau of Labor Statistics, with geography based on where people work. We used data from the 2016 OES as a supplemental source of information on kindergarten teacher salaries.
- **Interviews with subject matter experts.** Seven experts with knowledge of the ECE workforce and/or workforce development provided insights for our analysis of strategies used to improve compensation in other states/localities and sectors. These experts included Marcy Whitebook of the Center for the Study of Child Care Employment, Louise Stoney of the Alliance for Early Childhood Finance, Albert Wat of the Alliance for Early Success, Fred Dedrick of the National Fund for Workforce Solutions, and Pamela Loprest and Shayne Spaulding of the Urban Institute.
- **Literature review.** A targeted review of existing research informed our analysis of strategies used to improve compensation and the costs and benefits of closing compensation gaps. We

used internet and database searches to identify journal articles, research reports, briefs, and other resources from academic, government, and practitioner sources. In developing our inventory of strategies, we drew heavily on the Early Milestones Colorado Early Childhood Workforce Policy and Program Scan developed by Clayton Early Learning, supplemented with additional information compiled by the authors through interviews and literature review.

Strengths and Limitations of the American Community Survey

Because the ACS is the primary source of our estimates for early childhood educator compensation, it is important to highlight some of its strengths and weaknesses. One strength is that the ACS has detailed information about annual earnings and usual hours worked, allowing us to estimate hourly wages. It also has demographic information, allowing us to examine compensation by race, ethnicity, and gender. In addition, it provides information on health insurance, poverty, and receipt of public benefits such as the Supplemental Nutrition Assistance Program (SNAP) and Medicaid.

A key strength of the ACS is that it has sufficient sample size and geographic detail to allow us to analyze compensation across the six jurisdictions included in the Network: Washington, DC; Alexandria, VA; Arlington County, VA; Fairfax County, VA; Montgomery County, MD; and Prince George's County, MD. By combining five years of data, there was a sufficient sample size to allow analyses by jurisdiction, although we combined data for Arlington County and Alexandria to increase the sample size and reliability of estimates. The unweighted sample size for all early childhood educators in the Washington region (excluding teaching assistants) was 1,405.

Sample sizes were large enough to allow some detailed analysis of subgroups (e.g., occupational groups within jurisdictions); we show such analyses where we had at least 50 unweighted observations (see technical appendix for sample sizes by jurisdiction and setting and occupation). Although the ACS has a larger sample size than other available surveys, its estimates, like all survey estimates, are subject to sampling error and may differ somewhat from the true value in the underlying population. The ACS collects substantial information about wages and health insurance, but it does not provide information about disability insurance, pension coverage, and other elements of a full compensation package. Consequently, our analyses do not cover these as fully as we would like. Moreover, there are many challenges with identifying early childhood educators in the ACS and similar national datasets.

DEFINING EARLY CHILDHOOD EDUCATORS IN THE AMERICAN COMMUNITY SURVEY

The ACS has sufficiently detailed information on occupation and industry for us to distinguish between early childhood educators in center-based, family-based, and school-based settings. However, because “early childhood educator” is a relatively new term used to denote professionals working with young children across a variety of settings, the ACS does not use this occupational category. Instead, it divides the workforce into those working in the “preschool teacher” and “child care worker” occupations.

Our analyses look at professionals working in both occupations and classify them further based on setting (to distinguish between schools and other settings) and self-employment status (to distinguish family child care). These categories are similar to those used by the Government Accountability Office (GAO 2012):¹

- **Center-based educators coded as preschool teachers**, defined as “preschool teachers” who report working in either the child day care services industry or in religious organizations and are not self-employed.
- **Center-based educators coded as child care workers**, defined as “child care workers” who report working in either the child day care services industry or in religious organizations and are not self-employed.
- **Family child care educators**, defined as “child care workers” or “preschool or kindergarten teachers” who report working in either the child day care services industry or the individual and private services industry and are self-employed. The vast majority are coded in the “child care worker” occupation.
- **School-based educators**, defined as “child care workers” who report working in elementary or secondary schools and are not self-employed. This does not include educators working as preschool teachers in elementary and secondary schools.

Note that we did not include “child care workers” who were employed in the private household industry to exclude nannies from our analysis. We also separately analyzed the compensation of **center-based teaching assistants**, defined as teaching assistants who report working in the child day care services industry or with religious organizations and are not self-employed.

One major limitation of our analysis is that we could not provide information on the compensation of preschool teachers in school-based settings. The ACS does not separately report on “preschool teachers” and instead combines preschool and kindergarten teachers into one occupation. GAO addressed this limitation by including in its definition of early childhood educators “preschool or

kindergarten teachers” who work outside of elementary and secondary schools (i.e., the child care industry) and excluding those who do work inside of schools, many of whom will be kindergarten teachers.

We followed this approach and omitted “preschool teacher in elementary schools” from our analyses. We regret not being able to report on the compensation of preschool teachers in school settings, but this limitation is mitigated by the fact that many early childhood educators teaching in public prekindergarten programs in the Washington region are already paid on par with public school teachers because of pay parity policies in the region (Barnett and Kasmin 2017; DOE and HHS 2016).

BOX 1

How Are “Preschool Teacher” and “Child Care Worker” Defined in the American Community Survey?

When the Census Bureau classifies ACS respondents as “preschool teachers” or “child care workers,” it relies on the following occupational definitions and categories from the Bureau of Labor Statistics:

- “Preschool teachers educate and care for children younger than age 5 who have not yet entered kindergarten. They teach language, motor, and social skills to young children.”^a
- “Child care workers attend to the basic needs of children, such as dressing, bathing, feeding, and overseeing play. They may help younger children prepare for kindergarten or assist older children with homework.”^b

As these definitions suggest, there is some overlap in these two occupations as well as some differences, with child care workers serving children across a broader age range. Similarly, the duties associated with each occupation have considerable overlap; both include developing schedules and routines to ensure children have enough physical activity, rest, and playtime and watching for signs of emotional or developmental problems and bringing them to the attention of the parents. However, some duties of “child care workers” are unique to very young children (e.g., changing the diapers of infants and toddlers).

This suggests that child care workers include many educators of infants and toddlers as well as those who work with school-age children. However, the age of children served is not noted in the ACS data, and an unknown percentage of those coded as “child care workers” may serve children ages 3 to 5. In this report, we consider people in both occupations as early childhood educators.

^a US Department of Labor, Bureau of Labor Statistics, 2018, “Occupational Outlook Handbook: Preschool Teachers,” last updated February 13, 2018, <https://www.bls.gov/ooh/education-training-and-library/preschool-teachers.htm>

^b US Department of Labor, Bureau of Labor Statistics, 2018, “Occupational Outlook Handbook: Childcare Workers,” last updated January 30, 2018, <https://www.bls.gov/ooh/personal-care-and-service/childcare-workers.htm>

Three other limitations of the ACS data affect our analyses:

- The ACS data do not provide information about the age of children in ECE settings. One of the original goals of the study was to address the question, “What is the gap between early childhood educator and public school kindergarten teacher compensation in the region (with comparisons across **infant/toddler and preschool/prekindergarten** educators in school settings, other center-based settings, and family child care)?” The second research question was later narrowed to remove the focus on infants and toddlers and preschool and prekindergarten educators. National data on the ECE workforce show that educators working with infants and toddlers earn less than those serving older children (NSECE 2013; Whitebook, Austin, and Amanta 2015).
- The ACS data do not distinguish between public and private schools or centers. National ECE workforce survey data indicate that educators in public school–sponsored programs earn more than their counterparts in private, community-based settings, a difference that is especially large among educators with a bachelor’s degree (NSECE 2013).
- The ACS data do not provide information about the grade level of teaching assistants in elementary and secondary schools, so we cannot distinguish preschool teaching assistants from those in older grades. Because we expect that most teaching assistants in school-based settings are in older grades, we do not include them in our analysis of the ECE workforce. Our analysis of teaching assistants is therefore limited to teaching assistants in center-based settings. We do not have any information on teaching assistants in family child care because no respondents in the Washington region—and very few nationally—fell into that category.

Despite its limitations, the ACS data provided more information than the alternative dataset we considered, the Occupational Employment Statistics (OES). The OES does not include jurisdictions smaller than the Washington metropolitan statistical area, which includes some outlying areas beyond the six jurisdictions in the Network. Moreover, the OES does not have information on educator demographics or the settings in which they work.

Another alternative would have been to conduct a local workforce survey in the region, such as the one recently fielded in Virginia (VECF 2017). This could address some of the questions left unanswered by the ACS data, including differences between infant/toddler and preschool/prekindergarten educators and between educators in public and private settings, and could provide information about other elements of compensation and job quality, such as paid benefits, paid leave, and access to professional development. However, carrying out such a survey was beyond the scope and timeline of this study.

Organization of the Report

This report provides detailed analyses of the five research questions addressed in the study. In chapter one, we look at current ECE compensation in the region, documenting annual earnings, hourly wages, and access to health insurance. This analysis shows status quo compensation by setting (center-based, family child care, and school-based), by race and ethnicity, by jurisdiction, and by gender. Next, we benchmark ECE compensation against public school kindergarten teacher compensation to identify gaps. Chapter two then estimates the potential costs of closing these compensation gaps and the short-, medium-, and long-term benefits of doing so. In chapter three, we summarize strategies other states and localities used to address similar compensation gaps and highlight key considerations for compensation improvement initiatives. A technical appendix contains additional information about our data sources and analytical approaches.

I. Compensation of Early Childhood Educators

In this chapter, we review the compensation of the ECE workforce in the Washington region, showing variations across occupations and settings, by race and ethnicity, by jurisdiction, and by gender. We begin by presenting annual earnings, which are a useful measure because they represent the total resources from work that a family has available to support itself. Annual earnings also represent an employer's total wage and salary costs associated with an early childhood educator. We use annual earnings to provide estimates of hourly wages, which are better for analyzing compensation gaps because they allow for direct comparison across different groups of educators regardless of hours worked.²

For comparison, we provide estimates of kindergarten teacher compensation. Although there are multiple ways to define compensation benchmarks for the ECE workforce, the Network chose to focus on public school kindergarten teachers, a common benchmark for ECE compensation. Kindergarten teachers, particularly in public schools, are often compensated better than preschool teachers and other early childhood educators despite the importance of early learning experiences for child development.

Most of our data analysis focuses on salaries and wages, specifically average annual earnings and hourly wages for early childhood educators. However, we also discuss health insurance coverage; although not all educators have health insurance through their employer, this is still a key component of many compensation packages.

We exclude teaching assistants from most of our compensation analyses so that the comparison between early childhood educators and public kindergarten teachers will not be confounded by including teaching assistants in ECE settings when they are not included for public kindergarten settings. We provide a separate analysis of teaching assistant compensation at the end of the chapter.

Annual Earnings

Early childhood educators in the Washington region earn \$17,711 a year on average. Center-based educators coded as preschool teachers earn \$21,061 a year on average, more than other professionals (table 1).³ Family child care educators have average annual earnings of \$19,845. Center-based educators coded as child care workers and school-based educators earn the least (\$13,905 and \$14,355, respectively). Note that for most educators, we assume all earnings come from wages and

salaries. However, for family child care educators, we include business income as well to develop a more inclusive measure of annual earnings.⁴

Although early childhood educators in the Washington area qualify as low income, often with income below the federal poverty line, they earn almost \$5,000 more, on average, than their counterparts nationally (table 1). These earnings differences likely reflect the much higher cost of living in the Washington area and the relative affluence of parents that consume ECE services. Median family income in the Washington area is \$66,900, compared with a national median of \$56,800.⁵

TABLE 1
Average Annual Earnings of Early Childhood Educators, by Setting and Occupation

	Washington region	National
Educators coded as preschool teachers	\$21,061	\$16,334
Educators coded as child care workers	\$16,285	\$11,614
Center-based educators (child care)	\$13,905	\$10,030
Family child care educators	\$19,845	\$14,610
School-based educators	\$14,355	\$10,076
All educators	\$17,711	\$12,976

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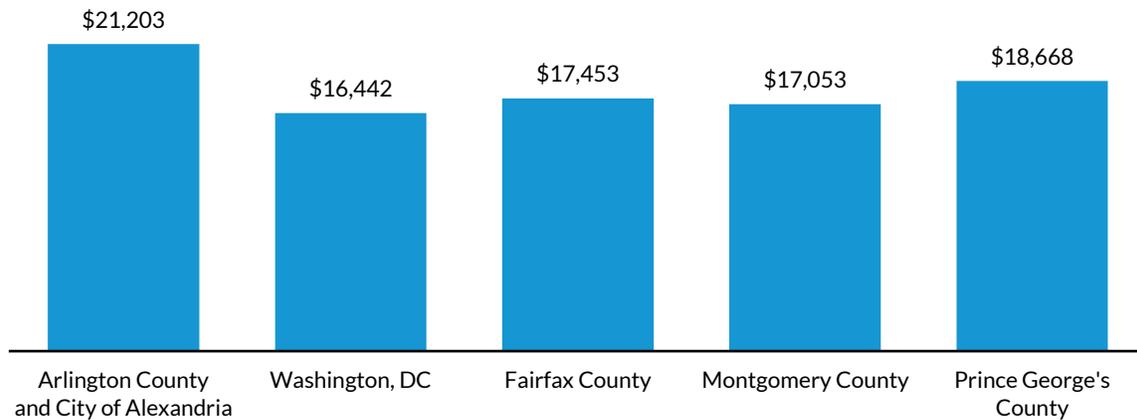
Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Annual earnings for family child care educators also includes business income. Average annual earnings are reported for occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405. Earnings are in 2016 dollars.

Average annual earnings vary across local jurisdictions (see figure 1). Early childhood educators in Arlington County and Alexandria earn the most (\$21,203), followed by those in Prince George’s County (\$18,668). Educators living in Washington, DC, have the lowest earnings on average, trailing behind those in Fairfax and Montgomery counties. Because the ACS is a survey of households, respondents are associated with their county of residence, which may not be their place of work.

FIGURE 1

Average Annual Earnings of Early Childhood Educators, by Jurisdiction



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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Annual earnings for family child care educators also includes business income. The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405. Earnings in 2016 dollars.

Hourly Wages

We now turn to hourly wages to facilitate comparisons between professionals who work different hours per week and weeks per year. For example, early educators working in before- and after-school programs may work part time for part of the year, and family child care educators are more likely to work full time for the full year. We want to compare the hourly wages of these various educators with the wages of public kindergarten teachers, who typically work a 10-month year. The Network suggested using public kindergarten teacher wages as the benchmark for comparing the gap between current and target compensation for early childhood educators.

Hourly Wages of Entry-Level Public School Kindergarten Teachers

As shown in table 2, we estimate an average hourly wage of \$27.36 for entry-level kindergarten teachers, across all jurisdictions, and higher wages for those with 5 or 10 years of experience. These averages are based on annual salaries reported in the public school pay scales from regional pay plans for the District of Columbia, Arlington County, Alexandria, Fairfax County, Montgomery County, and Prince George's County.⁶ In these jurisdictions, kindergarten teachers do not have a different pay scale

from teachers of later grades. We converted annual salaries to hourly wages by assuming a 10-month work year of 1,733 hours.

TABLE 2

Hourly Wages for Public School Kindergarten Teachers, by Jurisdiction and Experience

	0–1 years' experience	5 years' experience	10 years' experience
Arlington County and Alexandria	\$26.83	\$30.04	\$36.71
Washington, DC	\$28.86	\$31.84	\$39.46
Fairfax County	\$26.98	\$30.66	\$34.62
Montgomery County	\$27.54	\$30.56	\$36.92
Prince George's County	\$26.85	\$30.22	\$35.04
Washington region	\$27.36	\$30.65	\$36.03

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Source: Public school teacher pay scales from regional pay plans for the study areas.

Notes: Estimates assume a 10-month (1,733 hour) work year. The **Washington region** average is weighted by the early childhood educator population of each jurisdiction. Wages in 2016 dollars.

Although public pay plans provide a relatively precise measure of possible compensation, they are limited insofar as they do not provide information on what the average kindergarten teacher earns when taking into account levels of education and experience, nor do they provide information on variation by race and ethnicity or gender. We examined data from the Occupational Employment Statistics (OES) to determine an alternative estimate and found a considerably higher estimate of hourly wages for kindergarten teachers in the Washington, DC, metropolitan statistical area (\$41.04). Because the OES data do not have demographic information, we cannot report this separately for teachers by race and ethnicity or gender.

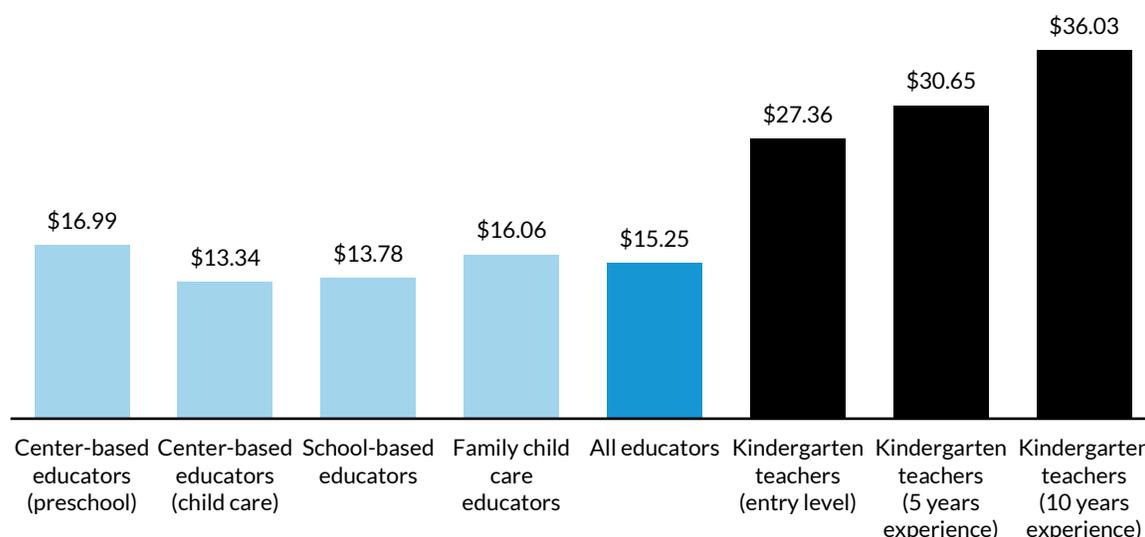
Several factors could explain the discrepancy between wage estimates from OES and from the regional pay plans. First, the OES measures the earnings of all kindergarten teachers, including those with master's degrees and higher tenure. We would expect these earnings to be higher than those of entry-level kindergarten teachers. The OES also may include bonuses, incentive payments, or payments for extra work that are not included in the base pay of the pay plan. The OES estimate also includes teachers in private schools, although evidence from national data leads us to doubt they are paid more than teachers in public schools (Allegretto and Tojerow 2014). Finally, the OES estimate covers the Washington, DC, metropolitan statistical area, which incorporates more surrounding counties than this report considers.⁷ We include the OES estimate of kindergarten teacher pay in our cost estimates in chapter two as an alternative measure, with the caution that it produces larger gaps than those implied by the pay plans.

Hourly Wages of Early Care Educators

Early childhood educators make an average of \$15.25 per hour in the Washington region, much less than even entry-level public kindergarten teachers (see figure 2). Patterns by setting mirror those in the average annual earnings seen earlier in table 1. Center-based educators coded as preschool teachers are the highest-earning occupational category (\$16.99 per hour), followed closely by family child care educators (\$16.06). Center-based educators coded as child care workers have the lowest hourly wages (\$13.34), even lower than those of school-based educators (\$13.78). All these estimates are based on annual earnings divided by the number of hours worked by the individual respondent and take into account the varying work hours of different educators.

FIGURE 2

Average Hourly Earnings of Early Childhood Educators and Kindergarten Teachers, by Setting and Occupation



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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Hourly wages are not directly reported in the American Community Survey and are instead calculated using annual wage and salary income, weeks worked in a year, and usual hours worked per week. Wages for family child care educators also include business income. Average hourly wages are reported for occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405. Wages in 2016 dollars.

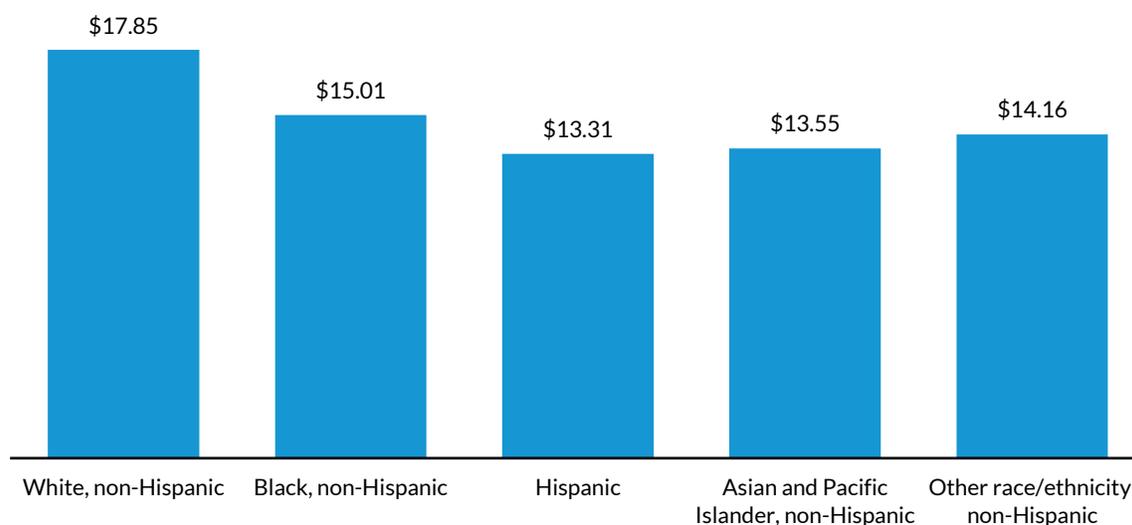
As noted earlier, the ACS data do not allow us to distinguish between educators coded as child care workers who serve infants and toddlers, preschool-age children, school-age children, or mixed-age groups. A recent survey of the ECE workforce in Virginia found that teachers and family day care providers who only taught preschoolers had a higher average wage (\$16.34 per hour) than those that

only taught infants and toddlers (\$11.61) or mixed-age groups (\$12.35) (VECF 2017). National data also suggest that early childhood educators working with infants and toddlers earn about 70 percent of what educators of children ages 3 to 5 earn (NSECE 2013). These differences may also apply to the Washington region, but we cannot know without further data collection.

Racial and Ethnic Disparities in Hourly Wages

There are wide disparities in hourly pay by race and ethnicity, as shown in figure 3. White educators earn almost \$3 more per hour than black educators (\$17.85 versus \$15.01). This suggests that black educators earn just 84 cents on average for every dollar earned by their white counterparts in the Washington region, the same ratio found in a recent national study (Ullrich, Hamm, and Herzfeldt-Kamprath 2016). Hispanic educators have the lowest average hourly wages of any race or ethnicity group, at \$13.31 per hour or 74 cents to the dollar earned by white educators. Wages of non-Hispanic Asian and Pacific Islander educators and other races fall somewhere between.

FIGURE 3
Average Hourly Earnings of Early Childhood Educators, by Race and Ethnicity



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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Race and ethnicity is reported for jurisdictions and occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405. Wages in 2016 dollars.

Whites make up 29 percent of all educators but 43 percent of center-based educators coded as preschool teachers, the highest-earning educator category (table 3). In contrast, Hispanics, who make up 25 percent of all educators, make up only 13 percent of that category. Asian and Pacific Islander educators are also underrepresented among those coded as preschool teachers. Blacks represent 31 percent of all educators and are represented at roughly the same percentage across all categories.

TABLE 3

Race and Ethnicity of Early Childhood Educators, by Occupation

	Preschool teachers	Child care workers	All occupations
White, non-Hispanic	43%	25%	29%
Black, non-Hispanic	32%	31%	31%
Hispanic	13%	28%	25%
Asian and Pacific Islander, non-Hispanic	8%	13%	12%
Other race/ethnicity, non-Hispanic	4%	2%	3%

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Although some pay differences may reflect the disproportionate number of white educators coded as center-based preschool teachers, there also are important disparities in hourly pay within occupations. Most notably, black center-based educators coded as preschool teachers make \$3.36 less, on average, than their white counterparts (\$16.02 versus \$19.38, respectively), as shown in table 4. They even make less than white educators coded as child care workers, an occupation that typically pays less than preschool teachers. Small sample sizes for those coded as preschool teachers prevent us from reporting outcomes for other race and ethnicity groups. Among those coded as child care workers, black, Hispanic, and Asian and Pacific Islander educators all earn lower hourly wages than whites, with the largest gap being \$3.44 per hour between Hispanics and whites. These data suggest that the problem of low pay for educators of color occurs because of differences within occupations as well as differential access to more highly paid occupations and settings.

TABLE 4

Average Hourly Wages for Early Childhood Educators, by Race and Ethnicity and Occupation

	Preschool teachers	Child care workers	Total educators
White, non-Hispanic	\$19.38	\$16.57	\$17.85
Black, non-Hispanic	\$16.02	\$14.60	\$15.01
Hispanic	--	\$13.13	\$13.31
Asian and Pacific Islander, non-Hispanic	--	\$13.55	\$13.55
Other race/ethnicity, non-Hispanic	--	--	\$14.16
All educators	\$16.99	\$14.49	\$15.25

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Hourly wages are not directly reported in the American Community Survey and are instead calculated using annual wage and salary income, weeks worked in a year, and usual hours worked per week. Wages for family child care educators also include business income. Average hourly wages are reported for race and ethnicity and occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405. Wages in 2016 dollars.

A fuller exploration of the many historical and contemporary factors that drive racial and ethnic disparities in hourly wages is beyond the scope of this project. However, we provide analyses of pay differences by educational attainment and by jurisdiction and offer some evidence that educational attainment and place of residence are associated with differences in pay across racial and ethnic groups.

Educational Attainment and Hourly Wages by Educational Attainment

Educators within each setting and occupation earn somewhat more if they have a bachelor's degree, although the differences are modest. The boost associated with having a bachelor's degree amounts to \$1.55 per hour (9 percent) for center-based educators coded as preschool teachers but only \$0.26 per hour for family child care educators (2 percent) and \$0.85 per hour for center-based educators coded as child care workers (5 percent) (see table 5). But because attainment of a bachelor's degree is associated with promotion into higher-paid positions, the overall average hourly wage for educators with a degree is \$1.75 per hour (12 percent) higher than wages for educators without a degree.

TABLE 5

Average Hourly Wages of Early Childhood Educators, by Setting and Occupation and Educational Attainment

	Educators without a bachelor's degree	Educators with a bachelor's degree	Difference
Educators coded as preschool teachers	\$16.46	\$18.01	\$1.55
Educators coded as child care workers	\$14.29	\$15.40	\$1.11
Center-based educators (child care)	\$13.29	\$13.55	\$0.26
Family child care educators	\$15.90	\$16.75	\$0.85
School-based educators	\$13.18	--	--
All educators	\$14.85	\$16.60	\$1.75

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Hourly wages are not directly reported in the American Community Survey and are instead calculated using annual wage and salary income, weeks worked in a year, and usual hours worked per week. Wages for family child care educators also include business income. Average hourly wages are reported for occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education worker occupations (excluding teaching assistants) in all jurisdictions is 1,405. Wages in 2016 dollars.

A closer examination by race and ethnicity suggests that black educators with a bachelor's degree are paid significantly more than black educators without a degree (a difference of \$5 an hour), as shown in table 6. Having a degree makes little difference for white educators (\$0.07 per hour), and Hispanic and Asian and Pacific Islander educators with degrees have lower hourly wages than their counterparts with less education.

Overall, only one-fifth of early childhood educators in the Washington region have a bachelor's degree. This varies considerably across groups, with almost a third of white and Asian and Pacific Islander educators holding degrees, compared with 10.4 percent and 16.2 percent of black and Hispanic educators, respectively. Note that white educators also had higher wages than other racial and ethnic groups. However, Asian and Pacific Islander educators did not have higher wages despite their relatively high levels of educational attainment.

TABLE 6

Average Hourly Wages of Early Childhood Educators, by Race and Ethnicity and Educational Attainment

	All educators	Educators without a bachelor's degree	Educators with a bachelor's degree	Share of educators with a bachelor's degree
White, non-Hispanic	\$17.85	\$17.83	\$17.90	30.5%
Black, non-Hispanic	\$15.01	\$14.36	\$19.52	10.4%
Hispanic	\$13.31	\$13.42	\$12.91	16.2%
Asian and Pacific Islander, non-Hispanic	\$13.55	\$14.03	\$12.72	31.5%
Other race/ethnicity, non-Hispanic	\$14.16	--	--	16.8%
All educators	\$15.25	\$14.85	\$16.56	20.4%

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Hourly wages are not directly reported in the American Community Survey and are instead calculated using annual wage and salary income, weeks worked in a year, and usual hours worked per week. Wages for child care workers in family-based care also include business income. Average hourly wages are reported for occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405. Wages in 2016 dollars.

Hourly Wages by Jurisdiction

Hourly wages vary by jurisdiction as well, reflecting cost-of-living differences and variations in local labor markets and ECE systems. Educators in Washington, DC, have the highest average hourly wage of any jurisdiction (\$17.32), as shown in table 7. Educators living in Prince George's County have the lowest hourly wages (\$13.69), although wages in the county are close to those in Arlington County and Alexandria (\$13.89). Even in Prince George's County, however, hourly wages are higher than wages nationally. As with the annual earnings discussed above, the higher hourly wages are likely related to the higher cost of living and higher income of parents in the Washington region.

Average hourly wages vary considerably by setting and district. Center-based educators in the District of Columbia coded as preschool teachers are paid more (\$19.36) than preschool teachers in surrounding jurisdictions, whereas District of Columbia residents working as center-based educators coded as child care workers receive wages in the midrange for the Washington region. Also note that family child care educators in Fairfax County earn \$17.66, more than educators in other settings and more than family child care educators in other jurisdictions. We do not know whether these differences reflect differences in regulatory requirements, in parent fees (which in turn reflect market conditions and family incomes), in public funding, or other factors. As noted earlier, early childhood educators living in one county may work in another jurisdiction. In addition, estimates by jurisdiction are not as

precise as estimates for the region as a whole because of the larger sampling error associated with smaller sample sizes.

The racial and ethnic composition of the early childhood educator workforce also varies across jurisdictions and in ways that largely reflect the demographics of each jurisdiction (Hendey 2017). Specifically, Washington, DC, and Prince George’s County have considerably higher shares of black educators than the other jurisdictions, which all have higher shares of Hispanic educators (see table 8). Non-Hispanic white educators only make up the plurality of the workforce in the Virginia jurisdictions (Arlington County, Alexandria, and Fairfax County). Arlington County, Alexandria, Fairfax County, and Montgomery County also have higher shares of Asian and Pacific Islander educators than Washington, DC, and Prince George’s County.

TABLE 7

Average Hourly Wages for Early Childhood Educators, by Jurisdiction, Setting, and Occupation

	Arlington County and Alexandria	Washington, DC	Fairfax County	Montgomery County	Prince George's County	Washington region	National
Educators coded as preschool teachers	--	\$19.36	\$15.57	\$18.84	\$14.79	\$16.99	\$13.26
Educators coded as child care workers	--	\$16.52	\$14.28	\$15.53	\$13.31	\$14.49	\$12.40
Center-based educators (child care)	--	\$13.52	\$12.03	\$13.95	\$14.65	\$13.34	\$12.21
Family child care educators	--	--	\$17.66	\$16.75	\$12.21	\$16.06	\$11.71
School-based educators	--	--	--	--	\$12.04	\$13.78	\$14.53
All educators	\$13.89	\$17.32	\$14.76	\$16.45	\$13.69	\$15.25	\$12.65

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Hourly wages are not directly reported in the American Community Survey and are instead calculated using annual wage and salary income, weeks worked in a year, and usual hours worked per week. Wages for family child care educators also include business income. Average hourly wages are reported for jurisdictions and occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405. Wages in 2016 dollars.

TABLE 8

Race and Ethnicity of Early Childhood Educators, by Jurisdiction

	Arlington County and Alexandria	Washington, DC	Fairfax County	Montgomery County	Prince George's County	Washington region
White, non-Hispanic	38%	21%	40%	33%	13%	29%
Black, non-Hispanic	15%	55%	13%	16%	67%	31%
Hispanic	27%	19%	27%	33%	13%	25%
Asian and Pacific Islander, non-Hispanic	15%	2%	18%	15%	5%	12%
Other race/ethnicity, non-Hispanic	4%	3%	2%	3%	2%	3%

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Note: The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405.

Gender Disparities

We now turn to gender disparities in the early childhood educator workforce. In keeping with the long history of occupational segregation by gender throughout the economy (Blau, Brummund, and Liu 2013), the large majority of educators are women (table 9). The burden of low compensation for the ECE workforce is therefore disproportionately felt by women. Ninety-four percent of early childhood educators are women, with somewhat higher male representation among educators coded as child care workers. The sample of male preschool teachers in the ACS is too small to present their characteristics in subsequent tables.

TABLE 9
Gender of Early Childhood Educators, by Occupation

	Educators coded as preschool teachers	Educators coded as child care workers	Total educators
Female	98%	93%	94%
Male	2%	7%	6%

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Gender is reported for occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405.

Although women face pay disparities relative to men in the overall workforce, table 10 suggests that women who are early childhood educators earn more than their male colleagues. Across all early childhood educator populations, women earn an average of \$15.33 per hour, compared with men's \$13.96 per hour. One factor driving this disparity is that a higher share of males are educators coded as child care workers rather than educators coded as preschool teachers. Because child care workers are paid less than preschool teachers, this lowers the average wage among men. Women who work in early care and education earn more than men as well, although the gap is smaller.

TABLE 10
Average Hourly Wages for Early Childhood Educators, by Gender and Occupation

	Educators coded as preschool teachers	Educators coded as child care workers	Total educators
Female	\$17.02	\$14.54	\$15.33
Male	--	\$13.86	\$13.96
All educators	\$16.99	\$14.49	\$15.25

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Hourly wages are not directly reported in the American Community Survey and are instead calculated using annual wage and salary income, weeks worked in a year, and usual hours worked per week. Wages for family child care educators also include business income. Average hourly wages are reported for gender and occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405. Wages in 2016 dollars.

Health Insurance Coverage

Earnings are the predominant form of compensation for most workers, but benefits like health insurance are also an important part of many compensation packages. The ACS includes information on whether a respondent has health insurance benefits and the source of those benefits. It reports whether a respondent had insurance benefits through an employer but does not specify whether it is the respondent’s employer or their spouse’s employer. Respondents may also be offered employer benefits that they do not use, and this offer would not be recorded in the survey. We are therefore only able to provide imperfect information about the nonsalary components of compensation.

About half (52 percent) of early childhood educators have employer-sponsored health insurance. Other educators rely on Medicaid (15 percent), are covered through other means (such as military or veterans’ health care or direct purchase of insurance), or are uninsured, as shown in table 11. Overall, 80 percent of educators in the Washington region have health insurance, which is comparable to our estimates for early childhood educators nationally (80.9 percent).⁸

Preschool teachers in center-based settings and educators coded as child care workers in school-based settings have the highest rate of health insurance coverage through their employers (63 percent and 60 percent, respectively). Family child care educators have the lowest rate (37 percent), which is not surprising because early childhood educators in family child care settings are frequently self-employed.

TABLE 11
Health Insurance Coverage, by Occupation and Setting

	Employer coverage	Medicaid coverage	Other coverage	Total with health insurance
Educators coded as preschool teachers	63%	16%	9%	89%
Educators coded as child care workers	47%	15%	13%	76%
Center-based educators (child care)	53%	13%	13%	79%
Family child care educators	37%	14%	17%	68%
School-based educators	60%	25%	1%	86%
All educators	52%	15%	12%	80%

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Source: Authors’ tabulations of the American Community Survey 2011–15 five-year sample.

Notes: The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405. Educators receiving insurance through an employer may be getting their coverage through a spouse’s employer rather than their own. Other coverage includes directly purchased health care, TRICARE, VA benefits, and other unidentified coverage sources.

Rates of employer-sponsored insurance coverage vary across jurisdictions, from 58 percent in Arlington County and Alexandria to 44 percent in the District of Columbia (table 12). Conversely,

educators in the District of Columbia have the highest Medicaid coverage rates, while those in Arlington and Alexandria are the least likely to rely on Medicaid. The cost to taxpayers of providing Medicaid coverage to educators, and the costs to educators of being uninsured, is discussed further in chapter two.

TABLE 12
Health Insurance Coverage, by Jurisdiction

	Employer coverage	Medicaid coverage	Other coverage	Total with health insurance
Arlington County and Alexandria	58%	3%	12%	73%
Washington, DC	44%	42%	5%	91%
Fairfax County	56%	5%	15%	76%
Montgomery County	50%	11%	16%	77%
Prince George's County	54%	21%	7%	82%
Washington region	52%	15%	12%	80%

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

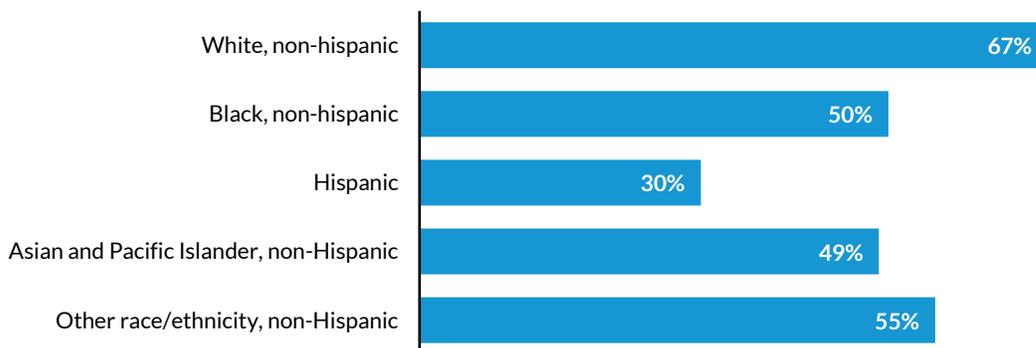
Notes: Insurance coverage is reported for jurisdictions with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education worker occupations (excluding teaching assistants) in all jurisdictions is 1,405. Educators receiving insurance through an employer may be getting their coverage through a spouse's employer rather than their own. Other coverage includes directly purchased health care, TRICARE, VA benefits, and other unidentified coverage sources.

Racial and Gender Disparities in Health Insurance

Racial disparities in employer-sponsored health insurance coverage follow the same pattern as hourly wages. White early childhood educators have a higher rate of employer-sponsored coverage than any other subgroup (figure 4). Two-thirds (67 percent) of white educators have health insurance through an employer, compared with only 30 percent of Hispanic educators. About half of educators of other races and ethnicities get insurance through their employers, including 49 percent of Asian and Pacific Islander educators, 50 percent of black educators, and 55 percent of educators of other races. Educators without employer-sponsored health insurance may get coverage from Medicaid or other sources or be uninsured.

FIGURE 4

Share of Educators with Employer-Sponsored Health Insurance, by Race/Ethnicity



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Source: Authors' tabulations of the American Community Survey 2011-15 five-year sample.

As shown in table 13, men employed as early childhood educators are more likely to get health insurance through an employer (63 percent) than women (49 percent) despite having lower hourly pay. This may reflect differences across settings or in the availability of insurance through a spouse's employer. Women are more likely than men to be employed in family child care settings, and educators in those settings are less likely to have health insurance. Inadequate sample sizes prevent us from directly exploring this hypothesis.

TABLE 13

Gender and Health Insurance Coverage through Employers

	Preschool teachers	Child care workers	All occupations
Female	63%	45%	49%
Male	--	63%	63%
All educators		46%	50%

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Source: Authors' tabulations of the American Community Survey 2011-15 five-year sample.

Notes: Health insurance coverage through employers is reported for genders and occupations with sufficient sample sizes (at least 50 unweighted observations). The unweighted sample size for all early care and education occupations (excluding teaching assistants) in all jurisdictions is 1,405.

Teaching Assistants

Teaching assistants, who help preschool teachers and educators coded as child care workers deliver high-quality education, are another key segment of the ECE workforce. We consider teaching assistants separately from other early childhood occupations because they are a distinct workforce whose compensation cannot be easily compared to that of kindergarten teachers. Instead, we compare their wages to those of teaching assistants in elementary and secondary schools. Also, as noted earlier, this section considers only teaching assistants in center-based care settings because of data limitations.

Teaching assistants in center-based settings earn \$14.49 per hour on average (table 14), the same as the average hourly wage of all child care workers. They are paid less per hour than child care educators in family child care settings but more per hour than school- and center-based child care educators. (Their annual earnings are lower because they work fewer hours, data not shown). Too few teaching assistants in center-based care settings are surveyed by the ACS to report separately by jurisdiction.

Half (52 percent) of center-based teaching assistants have health insurance coverage, the same percentage as for the combined group of early childhood educators (other than teaching assistants). This is lower than the rate of coverage among other center-based educators (63 percent for preschool teachers and 53 percent for child care workers, as was shown in table 11) but higher than the rate among school-based educators (60 percent) and family child care educators (37 percent). Eighty-five percent of teaching assistants have some kind of health insurance coverage.

TABLE 14
Compensation of Teaching Assistants in Center-Based Care Settings

	Value
Average hourly wage	\$14.49
Health insurance coverage	85%
Medicaid coverage	28%
Employer-sponsored coverage	52%
Other coverage	5%

URBAN INSTITUTE

Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Hourly wages are not directly reported in the American Community Survey and are instead calculated using annual wage and salary income, weeks worked in a year, and usual hours worked per week. Wages for family child care educators also include business income. Wages in 2016 dollars.

Summarizing Early Childhood Educator Compensation

The available data suggest that hourly wages for early childhood educators in the Washington region are low, with black and Hispanic educators paid lower wages than white educators. Early childhood educators receive a very modest wage boost if they hold a bachelor's degree. We do not have information on full compensation packages, but only about half of educators have employer-sponsored health insurance, and some receive this through their spouse's employer. White educators have higher rates of health insurance coverage than educators of color. Gender segregation in early childhood educator occupations is substantial, and the large majority of educators are women. However, gender disparities in compensation are more modest. Women employed as early childhood educators earn somewhat more than men, and men have higher rates of health insurance coverage.

II. Costs and Benefits Associated with Closing Gaps

In this chapter, we turn to our fourth research question: what are the costs and benefits associated with closing the compensation gaps between early childhood educators and public school kindergarten teachers? First, we estimate what it would cost to increase the hourly wages of early childhood educators to achieve parity with kindergarten teacher salaries. Second, we review the benefits of increased ECE workforce compensation for educators, children, and society.

Costs Associated with Closing the Compensation Gap

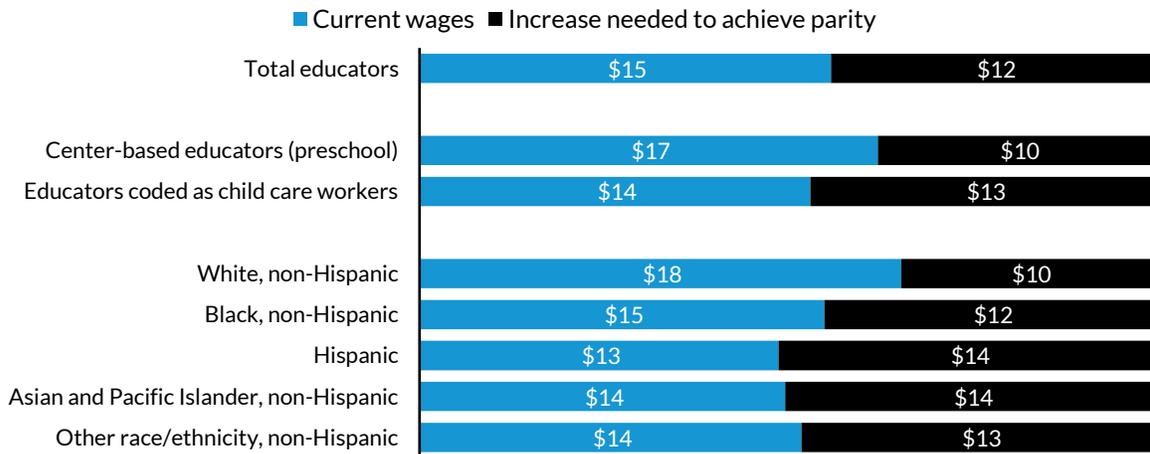
Drawing on the analyses presented in the previous chapter, we estimate the costs of increasing early childhood educator wages. First, we show the gap in hourly wages between different groups of early childhood educators and kindergarten teachers in public schools. Second, we multiply the hourly wage gap by the number of educators in each occupation and the hours worked in a year to determine the annual aggregate costs of increasing wages. Third, we present costs using alternative kindergarten teacher wage benchmarks and other variations in key parameters. Fourth, we show costs for increasing the wages of center-based teaching assistants. Finally, we briefly discuss the costs of moving beyond higher wages to increase access to health insurance, pensions, and other components of the compensation package.

Hourly Wage Gaps between Early Childhood Educators and Public School Kindergarten Teachers

We find a \$12 gap between the \$15 per hour average wage for early childhood educators and the \$27 per hour wage for an entry-level public kindergarten teacher (figure 5). Broken down by occupation, the gap is \$10 per hour for center-based educators coded as preschool teachers and \$13 per hour for educators coded as child care workers. By race and ethnicity, the gap averages \$10 per hour for white educators, \$12 per hour for black educators, \$14 per hour for Hispanic and Asian and Pacific Islander educators, and \$13 per hour for educators of other races. These gaps demonstrate that achieving parity between early childhood educators and public school kindergarten teachers would involve very large increases in hourly wages. Wages for Hispanic educators, for example, would more than double from \$13 to \$27 per hour on average.

FIGURE 5

Gaps between Wages of Early Childhood Educators and Entry-Level Public School Kindergarten Teachers, by Occupation and Race/Ethnicity



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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Entry-level teacher wages (\$27 per hour; assume the teacher has a bachelor's degree (but not a master's) and has no experience and no pay supplements or bonuses and works 10 months (1,733 hours) per year. Wages in 2016 dollars. Sums may not total to \$27 because of rounding.

Note that this is a conservative measure of parity because it compares wages of early childhood educators of all levels of experience against the base level wages of entry-level kindergarten teachers who have a bachelor's degree and no experience and are not receiving any supplements or bonuses. Alternative measures are presented later in the report.

Annual Wage Gap between Early Childhood Educators and Kindergarten Teachers

We estimate annual earnings for the average early childhood educator would increase by more than \$15,600 if wages were increased from \$15 to \$27 per hour, assuming no change in hours worked (1,291 hours per year). Moreover, we estimate that it would cost \$464 million to increase wages for the nearly 30,000 educators in the Washington region, assuming no change in the number of workers or usual hours worked.

The \$464 million includes \$122 million in higher wages for center-based educators coded as preschool teachers, \$160 million for center-based educators coded as child care workers, \$137 million for family child care educators, and \$41 million for school-based educators.⁹ The higher cost of increasing hourly wages for center-based educators coded as child care workers reflects both their

large numbers (nearly 10,000 in the Washington region) and their low wages. The lower cost for school-based educators reflects their smaller numbers (fewer than 3,000) and relatively fewer hours worked.

TABLE 15
Hourly, Annual, and Aggregate Gaps for Early Childhood Educators, by Occupation and Setting

	Current wages	Hourly wage gap ^a	Usual hours	Annual earnings gap	Workers affected	Cost to close (in millions)
Educators coded as preschool workers	\$16.99	\$10.37	1,327	\$13,767	8,867	\$122
Educators coded as child care workers	\$14.49	\$12.87	1,276	\$16,422	20,831	\$342
Center-based educators (child care)	\$13.34	\$14.03	1,163	\$16,310	9,793	\$160
Family child care educators	\$16.06	\$11.30	1,497	\$16,917	8,125	\$137
School-based educators	\$13.78	\$13.58	1,038	\$14,092	2,913	\$41
All educators	\$15.25	\$12.11	1,291	\$15,639	29,698	\$464

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Entry-level kindergarten teacher wages assume the teacher has a bachelor's degree (but not a master's) and has no experience and no pay supplements or bonuses. Estimates in 2016 dollars. Total costs for all educators differ slightly from the sum across all settings because of the math involved when multiplying averages and, more specifically, the fact that average hours worked varies across settings and is correlated with average wages.

^a Hourly wage gap is the difference between current wages and wages of entry-level kindergarten teachers (\$27.36).

Note that these estimates do not include the cost of increasing pay for educators who work in prekindergarten programs in public and private school settings. As discussed in the introductory chapter, the ACS data do not allow us to identify these educators because they are reported in the same occupational category as kindergarten teachers. Their absence is regrettable. However, many prekindergarten educators in public schools in the Washington region, particularly lead teachers in state prekindergarten programs, already have salary parity with public school kindergarten teachers (Barnett and Kasmin 2017; DOE and HHS 2016).¹⁰ That is, there is no gap for many preschool teachers in public schools, and so their absence does affect the cost estimate. Still, we are missing the costs of increasing wages for prekindergarten teachers in private school settings (and any public school prekindergarten teachers who are paid less than at parity), and so our annual cost estimates are likely to be underestimates.

Another way of examining costs is by geography. The aggregate cost of achieving parity includes \$55 million for educators living in the District of Columbia, \$34 million across Alexandria and Arlington County, \$123 million in Fairfax County, \$120 million in Montgomery County, and \$133 million in Prince George's County (see table 16). As noted earlier, the ACS data identify educators' place of residence and not necessarily their place of work.

The higher costs in Fairfax, Montgomery, and Prince George's counties reflect the number of educators living in those larger districts. There are approximately 8,600 early childhood educators living in Montgomery County, compared with fewer than 1,500 across Arlington County and Alexandria together. This analysis also reflects the range of hourly wages for entry-level public school teachers (from \$26.85 in Prince George's County to \$28.68 in the District of Columbia) and the range of average hourly wages for educators (from \$13.69 in Prince George's County to \$17.32 in the District of Columbia). See table 16 for additional details, including costs by occupation in each jurisdiction.

TABLE 16

Hourly, Annual, and Aggregate Gaps for Early Childhood Educators, by Jurisdiction, Occupation, and Setting

	Current wages	Wages of entry-level kindergarten teacher	Hourly wage gap	Usual hours	Annual earnings gap	Workers affected	Cost to close (in millions)
District of Columbia							
Educators coded as preschool teachers	\$19.36	\$28.86	\$9.51	1,557	\$14,803	1,079	\$16
Educators coded as child care workers	\$16.52	\$28.86	\$12.35	1,026	\$12,671	2,983	\$38
All educators	\$17.32	\$28.86	\$11.54	1,167	\$13,472	4,062	\$55
Arlington County and Alexandria							
Educators coded as preschool teachers	--	\$26.83	--	--	--	--	--
Educators coded as child care workers	--	\$26.83	--	--	--	--	--
All educators	\$13.89	\$26.83	\$12.93	1,478	\$19,123	1,758	\$34
Fairfax County							
Educators coded as preschool teachers	\$15.57	\$26.98	\$11.42	1,130	\$12,903	3,076	\$40
Educators coded as child care workers	\$14.28	\$26.98	\$12.71	1,286	\$16,344	5,097	\$83
All educators	\$14.76	\$26.98	\$12.23	1,228	\$15,009	8,173	\$123
Montgomery County							
Educators coded as preschool teachers	\$18.84	\$27.54	\$8.70	1,210	\$10,531	2,315	\$24
Educators coded as child care workers	\$15.53	\$27.54	\$12.01	1,276	\$15,330	6,290	\$96
All educators	\$16.45	\$27.54	\$11.10	1,258	\$13,965	8,605	\$120
Prince George's County							
Educators coded as preschool teachers	\$14.79	\$26.85	\$12.06	1,562	\$18,837	1,765	\$33
Educators coded as child care workers	\$13.31	\$26.85	\$13.54	1,384	\$18,743	5,335	\$100
All educators	\$13.69	\$26.85	\$13.16	1,428	\$18,801	7,100	\$133

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Source: Authors' tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Entry-level teacher wages assume the teacher has a bachelor's degree (but not a master's) and has no experience and no pay supplements or bonuses. Estimates in 2016 dollars. Estimates are reported for occupations with sufficient sample sizes (at least 50 unweighted observations). Costs for the two occupations in each area do not always sum to totals for all early childhood educators because of the math involved when multiplying averages and, more specifically, the fact that average hours worked varies across settings and is correlated with average wages.

Alternative Measures of the Gap

We have shown a \$464 million annual gap between early childhood educator wages and those of public school kindergarten teachers with no more than a bachelor’s degree, no experience, and no supplemental or bonus payments. The gap would be considerably greater (\$591 million) if the benchmark for parity were kindergarten teachers with 5 years of experience or 10 years of experience (\$797 million). Costs would also be different if the supply of or demand for early childhood educators adjusted in conjunction with the change in wages.

An alternative benchmark is the average hourly wage determined using data from the Occupational Employment Statistics (OES). OES data indicate that kindergarten teachers in the broader Washington, DC, metropolitan statistical area, which includes some outlying areas beyond the six jurisdictions in the Network, earn \$41.04 per hour on average. This average, calculated from annual earnings using the same 10-month year as in all other estimates, is markedly higher than the hourly wages based on the public school pay scale for teachers with a bachelor’s degree and 10 years of experience. As noted in chapter one, the difference likely reflects the inclusion of teachers with master’s degrees and teachers with more than 10 years of experience as well as the fact that many districts provide pay supplements above base teacher salaries. It also reflects the different data source and broader geographic region.

TABLE 17
Alternative Measures of the Compensation Gap

	Wages Based on Public School Pay Scales			
	No experience	5 years' experience	10 years' experience	Average teacher wages (OES data)
Kindergarten teacher hourly wage	\$27.36	\$30.65	\$36.03	\$41.04
Cost of closing the gap by setting and occupation (millions)				
<i>Educators coded as preschool teachers</i>	\$122	\$161	\$224	\$283
<i>Educators coded as child care workers</i>	\$342	\$430	\$573	\$705
Center-based educators (child care)	\$160	\$197	\$258	\$315
Family child care educators	\$137	\$177	\$243	\$304
School-based educators	\$41	\$51	\$67	\$82
All educators	\$464	\$591	\$797	\$989

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Sources: Authors’ tabulations of the American Community Survey 2011–15 five-year sample and public teacher pay scale plans.

Notes: Teacher wages assume the teacher has a bachelor’s degree (but not a master’s) and no pay supplements or bonuses. Wages in 2016 dollars.

The costs displayed in tables 16 and 17 are the costs of fully closing the wage gap. Costs would be less initially if salaries were first increased to only partially close the gap. For example, if the earnings of educators in all settings increased by 20 percent (about \$3 per hour for the average ECE worker), costs would total \$117 million (data not shown). As in the other estimates, this estimate is based on the simplifying assumption that there is no change in usual hours worked or the number of early childhood educators.

Additional Compensation Costs

Achieving parity in ECE compensation would require additional changes, including increasing wages for teaching assistants in child care settings and ensuring that early childhood educators receive health insurance, pensions, and other employer-provided benefits.

Closing the Gap for Teaching Assistants

For this analysis, we assume that pay parity for center-based teaching assistants means having the same hourly wage as teaching assistants in public elementary and secondary schools. Because such information was not readily available in the public school pay scale plans, we analyzed data from the OES.

The OES data indicate that teaching assistants in the Washington, DC, metropolitan statistical area are paid an average of \$19 per hour. This includes teaching assistants with all levels of education and experience in elementary and secondary schools, including private schools. This may be a low benchmark because it includes a small number of teaching assistants in public prekindergarten programs and teaching assistants in the outlying suburbs, where cost of living is lower. On the other hand, the OES estimate for kindergarten teachers was a high benchmark relative to data from the public pay scales.

We find a gap of about \$4.50 per hour between the approximately \$14.50 average hourly wage of teaching assistants in center-based settings (based on our ACS data analysis in chapter one) and the \$19 average hourly wage of teaching assistants in elementary and secondary school settings. This suggests a small cumulative annual wage gap of only \$14 million, much lower than the annual gap for other early childhood educators. The reasons for this are that the compensation gap per hour is smaller, many center-based teaching assistants work part time (averaging 962 hours per year), and there are relatively few teaching assistants (fewer than 3,300 across the Washington region), as shown in table 18. Note that data limitations discussed in the introductory chapter prevent us from including the costs of increasing the wages of teaching assistants in prekindergarten programs in elementary and secondary schools.¹¹

TABLE 18

Hourly, Annual, and Aggregate Gaps for Early Childhood Teaching Assistants in Center-Based Settings

	Current wages	Wages of teaching assistants in elementary and secondary schools	Hourly wage gap	Usual hours	Annual earnings gap	Workers affected	Cost to close (in millions)
Center-based teaching assistants	\$14.49	\$18.98	\$4.49	962	\$4,319	3,257	\$14

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Source: Authors' tabulations of the American Community Survey 2011-15 five-year sample and OES data.

Note: Estimates in 2016 dollars.

Health Insurance and Other Employer-Sponsored Benefits

As described in chapter one, only about half (52 percent) of early childhood educators have employer-sponsored health insurance from either their own employer or their spouse's employer. This ranges from 37 percent of family child care educators to 63 percent of center-based preschool teachers. In contrast, all public school teachers in the Washington region have access to health insurance through the school district, according to the public pay scale plans. Although some educators may have access to health insurance that they decline, the disparity in access is striking.

The cost of increasing early childhood educators' access to health insurance would be substantial. Annual premiums for single employees average about \$6,200 in Virginia and Maryland and \$6,500 in the District of Columbia, with employers paying an average of 76 percent of the cost.¹² Health insurance premiums for families are much higher, averaging nearly \$18,000 in Virginia and even higher in Maryland and the District of Columbia. Smaller employers and employers with low-wage workers usually pay somewhat less for insurance, but costs are still high (Claxton et al. 2017).

Teachers in public schools in the Washington region are generally offered medical, dental, and vision insurance as well as paid leave, life insurance, and retirement benefits, according to our review of the websites for the six school districts in the Washington region. Teachers in some jurisdictions are also provided flexible spending accounts, disability benefits, and prescription benefits.

Access to such benefits is low among early childhood educators, particularly those who work outside of school settings, according to national research and other regional studies (IOM and NRC 2015; Whitebook, Phillips, and Howes 2014). For example, analysis of Current Population Survey data suggests that 9.6 percent of ECE workers had pension coverage in 2014, compared to 39.0 percent of all other workers (Gould 2015). Similarly, an ECE workforce study in Virginia found that access to benefits

is lacking among educators; about one-third of surveyed programs did not offer any paid sick or vacation days (VECF 2017). A recent ECE workforce study in the District of Columbia found that when benefits are offered, paid time off for illness or vacation is more common than health insurance, retirement, disability, and other benefits (Berman et al. 2017).

Because the ACS data do not provide information about employer-sponsored benefits other than health insurance, it is difficult to quantify the full costs of closing the compensation gap beyond the \$464 million estimate for the wage gap. Though fully closing the compensation gap would require substantial investment, it also would yield important societal benefits.

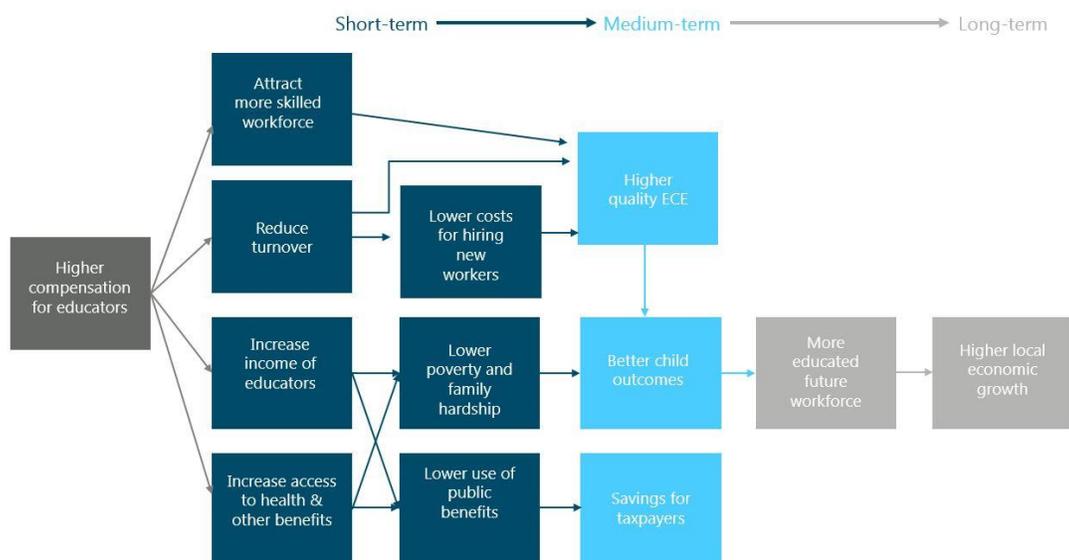
Benefits Associated with Increasing Compensation

There has been a growing recognition of the importance of early learning environments for nurturing children's development, as articulated in the landmark study *From Neurons to Neighborhoods: The Science of Early Childhood* (Phillips et al. 2000). Moreover, well-qualified and adequately supported professionals are increasingly recognized as critical to high-quality early education and care (IOM and NRC 2015). In this section, we review relevant literature on the relationship between early childhood educator compensation and the quality of learning environments in ECE programs as well as literature on the long-term societal benefits associated with improvements in program quality and children's developmental outcomes.

Our review and discussion of the literature is guided by the model shown in figure 6, which we created to show the different ways that higher compensation for early childhood educators could translate into benefits for children and the broader society as well as for educators. We first focus on the top rows of the model, reviewing how higher compensation can lead to higher-quality early care and education. Second, we discuss the long-term economic benefits of higher-quality ECE programs. Finally, we review the bottom rows of the figure, documenting how increased income for early childhood educators has immediate benefits for educators and their families (e.g., less poverty) and that some of these translate into savings for taxpayers (e.g., less use of public benefits). This literature review lays a foundation for future analyses that may attempt to quantify the benefits, but we do not attempt to do so here.

FIGURE 6

Modeling the Benefits of Higher Early Childhood Educator Compensation



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Improvements in ECE Program Quality

High-quality staff members are fundamental to the overall quality of ECE programs. Moreover, the wages of educators have been shown to be positively correlated with program quality. The seminal, multistate “Cost, Quality and Child Outcomes” study found that the two most significant factors predicting classroom quality were child-to-staff ratios and teacher wages and that the relationship between teacher wages and quality persisted even after controlling for teacher education, training, and experience (Helburn 1995; Kashen, Potter, and Stettner 2016). In another multistate study, teacher wages were found to contribute to quality of classroom processes, as were the more common indicators of child-to-staff ratios, teacher training, and group sizes (Phillips et al. 2000). Teacher wages were also a predictor of quality in studies of classrooms in Massachusetts and Canada (Goelman et al. 2006; Marshall et al. 2001).

Although these studies do not definitely prove a causal relationship between educator compensation and ECE program quality, there is good reason to believe that the relationship is causal. Higher compensation allows programs to attract a more skilled workforce and reduce turnover, both of which contribute to quality.

Attracting a More Skilled Workforce

Program directors often find it hard to hire qualified educators given the low pay and inadequate benefits they can offer (IOM and NRC 2015). The basic economics of supply and demand suggest that when ECE programs pay less than other occupations, some skilled educators will seek employment outside of the ECE field. This is particularly true of employees who meet the qualifications for similar jobs with higher pay, such as educators with sufficient educational credentials to be hired as kindergarten teachers. Many programs have hired skilled workers or worked to improve the skills of their employees through training and professional development only to see those employees move on to public schools or other settings that offer higher compensation. Without well-informed and well-prepared staff, it is hard to structure early learning environments and caregiver-child relationships in ways that foster child development.

Reducing Turnover

The ECE workforce has historically experienced high turnover, with separation rates among educators considerably higher than among elementary school teachers. Turnover among ECE teaching staff is approximately 13 percent, according to 2012 data from the National Survey of Early Care and Education, compared with 7 to 8 percent annually among K-3 teachers (Phillips, Austin, and Whitebook 2016; Whitebook, Phillips, and Howes 2014). A survey of ECE programs in Virginia in 2017 found that slightly more than half (59 percent) reported turnover in the previous year (VECF 2017). About half of those educators who leave their jobs leave the ECE field altogether, according to surveys (Bridges et al. 2011; Whitebook and Sakai 2003).

Many early childhood educators who leave the field do so because of the low wages and limited access to benefits (Totenhagen et al. 2016; Whitebook, Phillips, and Howes 2014; Whitebook and Sakai 2003). When surveyed, many who left for elementary school positions cited the higher salary (Whitebook and Sakai 2003). A survey of the ECE workforce in Virginia found that programs with high turnover (defined as more than 20 percent of staff leaving within a year) paid lower average hourly wages than programs with little or no turnover (VECF 2017). Finally, the experience of the Department of Defense child care program provides direct evidence that higher wages reduce turnover. Turnover among teaching staff within military child development centers fell dramatically when wages were increased by 76 percent (Whitebook, Phillips, and Howes 2014).

Reducing turnover can improve the quality of early care and education in several ways. First, there is strong evidence that ongoing relationships with caregivers are critical to children's development and

that those relationships can buffer the negative effects of stress (Phillips, Austin, and Whitebook 2016; Shonkoff and Phillips 2000). The continuity of caregiving relationships is adversely affected by frequent turnover. It also takes time to replace teaching staff, so there may be periods with suboptimal child-to-teacher ratios (Kashen, Potter, and Stettner 2016). Other teachers experience stress as a result of higher workloads and adapting to new coworkers (Cassidy et al. 2011; Whitebook et al. 2001), and this stress can, in turn, hamper the quality of their caregiving (de Schipper et al. 2009; Phillips, Austin, and Whitebook 2016). There are also financial costs associated with recruiting, hiring, and training new workers. Although we do not have estimates specific to the ECE industry, a review of 11 research studies of turnover in different industries found that the median cost of turnover for an individual employee was about one-fifth of an employee's annual salary (Boushey and Glynn 2012). When administrators must spend time and money on recruiting and retraining new workers because of turnover, they have fewer resources to invest in quality enhancements for their programs.

Long-Term Economic Benefits of High-Quality ECE Programs

Improving the quality of ECE programs can have long-term economic benefits. Early childhood is when children learn foundational skills, both cognitive and noncognitive, that prepare them to be productive members of the workforce. A consensus statement on the current state of scientific knowledge on prekindergarten programs confirms that the quality of ECE programs attended by young children affects their developmental outcomes (Phillips et al. 2017).

Effects are seen most directly in children's school readiness, but long-term studies that followed children for 20–35 years after attending Perry Preschool, the Chicago Child-Parent Centers, and the Abecedarian Project find solid evidence of economic benefits. These include increases in children's educational attainment and labor market earnings upon reaching adulthood, decreases in juvenile and adult criminal activity, and associated benefits to taxpayers (Isaacs 2007; Karoly, Kilburn, and Cannon 2005; Karoly et al. 1998; Reynolds et al. 2002). Some research suggests that improvements in "soft" or noncognitive skills explain why long-term studies find increased earnings despite some evidence of "fade out" (diminished impact over time) in academic achievements during elementary school (Heckman, Pinto, and Savelyev 2013).

More recent studies suggest that state early education programs that are less intensive than the model programs still have positive effects during adolescence, including increased math achievement in

middle school and reduced criminal activity at ages 18 and 19 (Gormley, Phillips, and Anderson 2017; Smith 2015). A meta-analysis of 22 rigorous studies of early childhood education conducted between 1960 and 2016 also reported strong medium- and long-term educational outcomes, including reductions in grade retention and placement in special education and increases in high school graduation (McCoy et al. 2017).

Cost-benefit ratios from early education programs are impressive, ranging from \$3 to \$17 returned for every dollar invested in the early models (Isaacs 2017). These positive benefits are based on rigorous experimental or quasi-experimental designs that compare children attending high-quality ECE programs with children who did not receive any ECE services. Estimated benefit-cost ratios for current investments in large-scale early education programs (e.g., state prekindergarten programs) are smaller but still remarkable at \$1 to \$5 returned per dollar invested (Rohacek, Greenberg, and Massey 2017). In these late studies, the comparison group of children may attend lower-quality programs or no programs at all. However, because the studies compare total costs of ECE programs to long-run outcomes, they cannot be used to quantify the benefit of increased spending on any one component of ECE programs (e.g., higher compensation). Yet they suggest that investments in quality improvements that improve children's education and economic outcomes will yield positive long-term economic benefits.

In addition to the cost-benefit literature, there is an economic development literature that highlights the positive effects of a more highly educated future workforce on local economic development. Employers are looking for the very skills that are improved by attending ECE programs, such as math and language skills, analytical thinking, and social skills (Grunewald 2016). Investments in early education can thus rival investments in other forms of infrastructure and human capital as a form of local economic development (Rolnick and Grunewald 2003).

Finally, access to high-quality ECE programs can make more of a difference in the lives of economically disadvantaged children and dual-language learners than other children (Phillips et al. 2017). This suggests that improvements to ECE programs can help address achievement gaps, meeting an important societal goal.

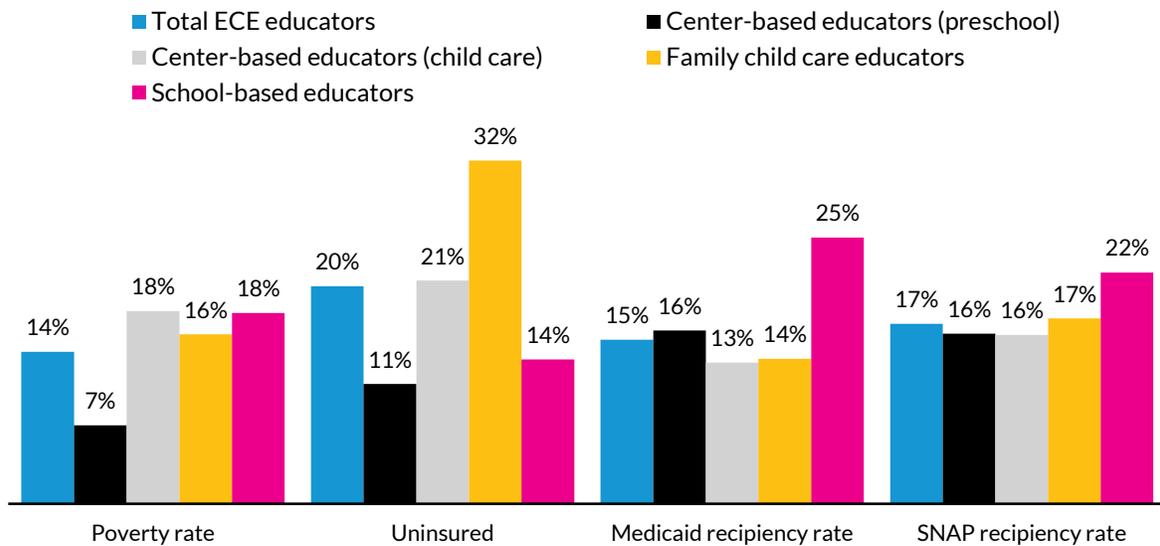
The Benefit of Reducing Poverty and Public Benefit Receipt

Many early childhood educators and their families face economic hardships stemming from their relatively low compensation. Fourteen percent of educators (one in seven) in the Washington region are

poor, meaning that their family income falls below the federal poverty threshold (for example, \$19,100 was the threshold for a family of three in 2016). This is higher than the 8 percent poverty rate for all adults ages 18 to 64 in the Washington region.¹³ In addition, 20 percent of early childhood educators (one in five) lack health insurance, and another 15 percent rely on Medicaid for their health insurance. Finally, 17 percent received Supplemental Nutrition Assistance Program (SNAP) benefits, formerly known as food stamps, at some point to help pay for their family’s grocery expenses. For comparison, 9 percent of Washington region residents ages 18 to 64 are on Medicaid, and 9 percent receive SNAP benefits.

Differences among educators across settings reveal that center-based educators coded as preschool teachers have a much lower poverty rate (7 percent) than other early childhood educators. Family child care educators face the biggest challenges receiving health insurance, and nearly one-third (32 percent) report having no form of health insurance. School-based educators have the highest rates of SNAP and Medicaid reciprocity (22 and 25 percent, respectively) among the educator groups examined, reflecting their low hourly wages, low hours worked, and the possibility of summer months without pay (see figure 7).

FIGURE 7
Indicators of Economic Hardships among Early Childhood Educators in the Washington Region



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Source: Authors’ tabulations of the American Community Survey 2011–15 five-year sample.

Notes: Medicaid reciprocity is measured for the early childhood educator, not their family. Reciprocity rates would be higher if any member of the educator’s family, including children, were included.

A national study of public benefit receipt among child care educators (excluding preschool teachers) found a similar rate of Medicaid reciprocity nationwide (15 percent) and a slightly higher rate of SNAP reciprocity (19 percent nationally versus 17 percent in the Washington region) (Whitebook, Phillips, and Howes 2014). The national estimates also show that 2 percent of child care educators receive cash assistance through the Temporary Assistance for Needy Families program, 41 percent receive the earned income tax credit, and 19 percent of their children receive health insurance through Medicaid or the Children's Health Insurance Program. Other research also points to the economic insecurity of early childhood educators. For example, a study of ECE educators in one state found that many were worried about having enough food for their family (48 percent), paying housing costs (63 percent), or their retirement savings (80 percent) (Sakai 2014). A recent survey of the ECE workforce in Washington, DC, found that large majorities expressed anxiety about their ability to pay monthly bills (Berman et al. 2017).

Improving ECE compensation would likely reduce poverty rates and public benefit receipt among educators and their families. Increased access to employer-sponsored health insurance would further reduce the number of educators who are uninsured or rely on Medicaid. One obvious result would be an improvement in the well-being of early childhood educators. Another would be savings for taxpayers stemming from the reduction in receipt of SNAP, Medicaid, and other public benefits among early childhood educators. Whitebook, Phillips, and Howes (2014) estimated an annual savings of \$7,500 for each educator who stopped using Medicaid and \$2,580 per educator who left the SNAP program (in 2011 dollars).

Reducing economic insecurity and stress among educators could also improve their effectiveness as teachers, providing another means of improving child care quality. Anxiety about family finances can contribute to emotional stress, and a growing body of literature suggests that stress and depression can negatively affect teachers' interactions with children (de Schipper et al. 2009; Kashen, Potter, and Stettner 2016; Phillips, Austin, and Whitebook 2016).

Finally, many early childhood educators are mothers who struggle to afford child care for their own children (Gould 2015). Reducing the poverty of these women and their children and increasing their access to health care is a social goal in and of itself. When early childhood educators have more economic resources, they can support their own children's development through the positive effects of their reduced financial anxiety and stress and enhanced material resources (including nutritious meals, access to high-quality child care, and living in neighborhoods free of crime and noise pollution). By reducing family poverty, better compensation can improve outcomes for the children of early childhood educators as well as the children they teach.

Summarizing the Costs and Benefits of Closing Compensation Gaps

In this chapter, we have demonstrated a \$12 gap between average hourly wages for early childhood educators and entry-level public kindergarten teachers. Increasing the hourly wages of nearly 30,000 early childhood educators across the Washington region by \$12 would cost \$464 million, assuming no change in the number of educators or usual hours worked. Costs would be considerably higher if we used higher benchmarks (e.g., teachers with 5 or 10 years of experience) to determine the wage gap and included the cost of increasing access to benefits such as health insurance and pensions.

We also described various benefits of closing the compensation gap, such as the improvement in ECE program quality that would result from attracting a more skilled workforce and reducing turnover. Improvements in children's outcomes stemming from higher program quality would have long-term economic benefits. At the same time, the economic conditions of early childhood educators and their families would also improve, and the resulting decreases in their poverty and receipt of public benefits would mean savings for taxpayers.

III. Strategies for Addressing Compensation Gaps

As the issue of ECE workforce compensation has gained increased attention, states and localities have experimented with several strategies for improving compensation. In this chapter, we address our fifth research question: how have other states, localities, or sectors addressed similar compensation gaps?

The greatest barrier to increasing compensation for the ECE workforce is limited funding for ECE systems. The current ECE landscape in the United States is a decentralized patchwork of public and private programs funded through a complex combination of parent fees; public investments at the federal, state, and local levels; and contributions by private institutions. Although over 80 percent of child care and preschool programs are private entities, many receive some public funding (NSECE 2014). ECE settings can be publicly funded (e.g., public school-based preschool and Head Start programs), funded by a combination of parent fees and public funding (e.g., private providers that serve some children receiving subsidies), or privately funded (e.g., private providers that rely entirely on parent fees or contributions by private institutions).

As shown in chapter two, closing compensation gaps between early childhood educators and public school kindergarten teachers would require significant funding. Because many parents already struggle with high child care costs, addressing compensation by raising fees could exacerbate the challenges families already face and put quality care out of reach for many children (Dastur et al. 2017; Rhodes and Huston 2012). In 2014, the average cost of center-based infant care exceeded 10 percent of the median income for a two-parent family and was higher than public college tuition in most states (Fraga, Dobbins, and McCready 2015). Without substantial public investment in ECE, it will likely be difficult to comprehensively address low compensation in the field.

Some strategies have succeeded in incrementally improving the compensation landscape at the state and local level. These strategies fall into two broad categories: (1) *direct compensation strategies* that direct funding to increasing wages or benefits and (2) *indirect compensation strategies* that seek to increase compensation by addressing factors associated with higher compensation, such as teacher education and training and overall program funding and quality.

Both direct and indirect approaches may be funded through a variety of mechanisms, such as the tax system or funding associated with federal programs like Head Start or the Child Care and Development Block Grant.¹⁴ We distinguish strategies by the nature of the policy design. Direct

strategies are designed to ensure that funding goes to increased earnings or benefits (e.g., programs that provide wage supplements or tax credits for early childhood educators). Indirect strategies are designed to encourage or facilitate increased earnings or benefits without explicitly directing funds to do so. For example, programs that provide scholarships for professional development may improve compensation by making educators more competitive in the labor market, but they do not necessarily ensure that education and training will be rewarded with higher earnings.

Classifying strategies into two categories requires some judgement calls because some strategies are hard to classify. Provision of health care services at a single clinic, for example, provides direct services but is not a traditional form of compensation with the flexibility of health insurance. In other cases, an indirect strategy could be modified to be direct. For example, the development of career ladders can merely create a framework for linking professional development to career advancement and increased wages (an indirect strategy), or programs can provide funding for increased compensation linked to state-approved career ladders (a direct strategy). Below, we summarize examples of direct and indirect approaches and highlight key considerations for compensation strategies.

Direct Compensation Strategies

Direct compensation strategies explicitly direct funding to compensation for early childhood educators. Marcy Whitebook, a leading researcher on the ECE workforce, argues that it is helpful to distinguish between base compensation strategies that raise pay on a predictable, ongoing basis for all teachers across or within settings and supplement strategies that provide one-time or periodic salary supplements for individual teachers (Whitebook, McLean, and Austin 2016; Whitebook, Phillips, and Howes 2014). Although not intended to be an exhaustive review of such strategies, table 19 presents several examples.

Raising Base Compensation

One example of a strategy to raise base compensation is directing public funds to ECE programs to augment regular wages based on education and experience or to link compensation to progression in a state-approved career ladder. For example, Washington State's Career and Wage Ladder Pilot Program provided funding to participating centers to support wage increases based on experience and educational attainment. An evaluation comparing participating centers with a group of nonparticipating centers found that participation was associated with improved wages, retention, and morale (Brown 2002).

Another strategy, perhaps the most common example, is the implementation of pay parity mandates for public preschool programs, which require that preschool educators receive pay and benefits comparable to other public school educators. Pay parity mandates can vary considerably in their comprehensiveness (Barnett and Kasmin 2017). The most comprehensive mandates include provisions for wages, benefits, and other forms of compensation; parity for starting salary and pay schedule; prorated compensation based on hours and days worked; coverage for teachers and teaching assistants; and coverage for teachers in public schools and private providers receiving public funding in mixed delivery systems.

Supplementing Salaries and Wages

In contrast to strategies that increase regular pay or benefits, strategies for supplementing salaries and wages, such as stipends and refundable tax credits, increase compensation on a periodic or one-time basis for individual teachers. These approaches can provide valuable financial support and encourage professional development, but they are also limited in their ability to provide reliable, ongoing financial relief. Wage stipend programs, which provide periodic financial supplements for early childhood educators, are a common example. The WAGE\$ program, developed by T.E.A.C.H. Early Childhood, operates in five states and provides education-based salary supplements for early childhood educators every six months. The program is limited to qualifying teachers, who must reapply every year. The impact of such stipend programs may depend on the stipend amount, adequate funding (e.g., no waiting lists), eligibility criteria, and application requirements (e.g., annual renewal).

Another supplement strategy is to provide tax credits to early childhood educators. This approach, recently implemented in Louisiana and Nebraska, gives eligible educators refundable tax credits based on their educational attainment and experience. A potential challenge with this approach is that educators only receive the benefit after they file their taxes for the previous year. As with stipends, the impact of such programs also depends on program design factors such as credit amount and eligibility criteria.

Some approaches focus less on wages and dedicate funding to directly provide or support access to nonsalary benefits. Examples include funding a clinic to provide services to local early childhood educators or directing funding to employers to support the purchase of health insurance. These approaches reflect the need to also address compensation gaps as they apply to benefits such as health insurance, retirement, paid leave, and paid planning time.

In some cases, policies not targeted at the ECE community may also serve as direct strategies. For example, increasing the minimum wage or expanding eligibility for publicly funded health insurance

programs would likely impact a large segment of the ECE workforce. However, the net impact of such policies on the ECE workforce would depend on a complex array of factors. Minimum wage laws would only affect educators earning wages below any new minimum, and employer mandates can also impact hiring and other employer practices that would affect the ECE workforce. More generally, note that direct strategies may ensure increased compensation but do not necessarily ensure improved ECE program quality or demand for labor, which are affected by myriad factors.

TABLE 19

Direct Early Care and Education Compensation Strategies

Strategy	Description	Examples
Raising Base Compensation		
Grants to programs	Initiatives to raise base compensation increase salary and benefits packages through mechanisms such as grants to programs. These may apply to all programs of a given type or only to those that meet eligibility criteria.	<p>The C-WAGES program (originally WAGES+) in San Francisco County provided local public funding to licensed centers to support wages based on job title and education level as well as medical insurance and retirement contributions for classroom staff. The associated family child care (FCC) program could also receive funding to support its educators' wages. Programs had to meet specific eligibility criteria related to children served, quality rating and improvement system rating, and workforce registry participation. The C-WAGES program ended in fiscal year 2016–17 with the launch of the Early Learning Scholarship Program.^a</p> <p>Washington State's Career and Wage Ladder Pilot Program (no longer funded) linked a state-developed early childhood career ladder to increases in pay. Participating centers agreed to increase wages based on experience, and state funding was provided to pay for additional increases based on educational attainment. In addition, state funding was used to offset administrative costs through a 15 percent administrative payment to centers. To be eligible, centers had to serve a minimum percentage of subsidized and low-income children (Brown 2002).</p>
Pay parity mandates	Pay parity mandates require early childhood educators to be compensated at the same level as kindergarten teachers and are most commonly applied to early childhood educators working in public preschool settings. The most comprehensive mandates include provisions for wages, benefits, and other forms of compensation; parity for starting salary and pay schedule; prorated compensation based on hours and days worked; coverage for teachers and teaching assistants; and coverage for teachers in public schools and private providers receiving public funding in mixed delivery systems. Pay parity may be mandated at the state level or by individual districts.	<p>Several states have implemented variants of pay parity mandates, but six public preschool programs in four states (New Jersey, New Mexico, North Carolina, and Tennessee) provide parity across pay, benefits, and professional responsibilities and extend parity to both lead teachers and teaching assistants. Four states (New Jersey, Oklahoma, Tennessee, and West Virginia) provide pay parity for educators in both public and community-based settings (Whitebook, McLean, and Austin 2016).</p> <p>In some cases, parity mandates exist at the local level within state preschool programs. For example, Washington State's Early Childhood Education and Assistance Program does not have a parity policy for teacher pay, but the Seattle Preschool Program pays teachers public school teacher salaries (Barnett and Kasmin 2017).</p>
Supplementing Salaries and Wages		

Strategy	Description	Examples
Periodic salary supplements	Salary supplement programs provide wage stipends to educators on a periodic basis. The stipend amount typically varies by educational attainment or position on the career ladder, and eligibility is often limited to educators meeting specific criteria (e.g., type of program, wage level, groups of children served).	<p>The WAGE\$ program, developed by T.E.A.C.H. Early Childhood, offers education-based salary supplements to qualifying teachers, directors, and family child care providers. Participants receive a graduated supplement every six months, and stipends may be renewed annually. In fiscal year 2018, WAGE\$ operated in five states: Delaware, Florida, Iowa, North Carolina, and New Mexico.^b</p> <p>Some states and localities offer their own salary supplement programs. The REWARD Wisconsin program provides salary supplements to eligible educators based on their education, tenure, and employment setting and hours.^c</p>
Refundable tax credits	Refundable tax credits provide eligible educators with annual tax credits based on their qualifications.	The Louisiana School Readiness Tax Credit was the first to provide refundable tax credits to teachers and directors based on their level of education and training, with levels linked to the Louisiana early care and education career ladder. Educators are eligible if they have worked for at least six months at a licensed, center-based ECE program that participates in the state quality rating and improvement system and have enrolled in the state ECE practitioner registry. ^d In 2016, Nebraska established a similar program. ^e

Improving Access to Benefits

Provision of health services or insurance	To address the widespread lack of access to health benefits in the ECE workforce, programs may provide funding for health insurance or free health care services to employees at licensed ECE facilities.	<p>Funded with Right Start tax dollars, the EC Cares program in Summit County, Colorado, provides all county teachers working in licensed care facilities with access to basic health services at Summit Community Care Clinic’s main location or any of their School Based Health Centers. This includes access to “well care, acute care, and behavioral health care.”^f</p> <p>The T.E.A.C.H. Early Childhood Health Insurance Program in North Carolina (no longer funded) helped cover the cost of health insurance for eligible employees participating in the T.E.A.C.H. scholarship program (described in table 20). Participating programs could have up to one-third of the cost of individual health insurance reimbursed, and programs had to agree to cover at least one-third of the cost as well. To be eligible, programs needed a minimum number of staff participating in scholarships (Child Care Services Association 2013).</p>
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Sources: Adapted from information in the Early Milestones Colorado Early Childhood Workforce Policy and Program Scan, developed by Clayton Early Learning, and supplemented with additional information compiled by the authors through interviews and a literature review.

^a “C-Wages,” San Francisco Office of Early Care and Education, accessed December 19, 2017, <http://sfoece.org/cwages/>
^b “Child Care WAGE\$,” T.E.A.C.H. Early Childhood National Center, accessed December 19, 2017, <http://teachecnationalcenter.org/child-care-wage/>
^c “REWARD Wisconsin,” Wisconsin Early Childhood Association, accessed December 19, 2017, <http://wisconsinearlychildhood.org/programs/reward/>

^d“School Readiness Tax Credit,” Louisiana Department of Revenue, accessed December 19, 2017, <https://revenue.louisiana.gov/IndividualIncomeTax/SchoolReadinessTaxCredit>

^e“School Readiness Tax Credits for the Early Childhood Workforce and Step Up to Quality Program Participants,” Step Up to Quality, accessed December 19, 2017, <https://www.education.ne.gov/stepuptoquality/providers-educators/resources/tax-credits/>

^f“Summit County Community Care Clinic Launches EC Cares with Community Partners,” Summit Community Care Clinic, accessed December 19, 2017, <http://www.summitclinic.org/2017/summit-community-care-clinic-launches-ec-cares-with-community-partners/>

Indirect Compensation Strategies

Indirect strategies seek to improve compensation by addressing factors associated with higher pay and benefits. Indirect strategies can be leveraged as part of broader efforts to improve quality in ECE systems, but they are not meant to guarantee increases in compensation. Table 20 presents several examples, though it is not intended to be exhaustive. These strategies can be broadly grouped into those that support professional development, those that enhance funding for quality improvement, and other indirect strategies.

Professional Development Strategies

Professional development strategies aim to increase compensation by encouraging and facilitating educational attainment and career advancement. Examples include scholarships to support the cost of tuition, books, and release time; bonuses to reward attainment of a degree or certificate; and loan forgiveness to ease the financial burden of education. Additionally, ECE career pathways create formal frameworks for linking competencies, professional development requirements, and career advancement, which can be mapped to wage increases.

Data from chapter one show that the earnings increase associated with having a bachelor's degree in the Washington region is relatively modest, with no occupational category experiencing more than a \$3,000 increase in average annual earnings. This suggests that strategies to improve education and training may not be sufficient to improve compensation without additional steps to translate increased professional development into higher compensation.

Funding for Quality Improvement and Other Strategies

More broadly, several state and local strategies have focused on increasing the funding available for investment in ECE program quality. As discussed in chapter two, better compensation for early childhood educators is associated with higher-quality early learning environments. Quality improvement funds can be used to increase compensation or support professional development that may lead to better compensation, but we classify these strategies as indirect because they generally do not require funds to be used in this way. One approach is for states and localities to leverage tax initiatives for investment in ECE program quality or raise public funds to direct toward high-quality programs. For example, Oregon's child care contribution tax credit rewards individuals and companies

for making cash donations or stock contributions that are managed by the state's Office of Child Care to support quality improvements in child care programs.

Another common lever for indirectly addressing compensation through quality improvement is tying state quality rating and improvement systems (QRIS) to reimbursement rates for providers accepting child care subsidies through the Child Care and Development Fund. QRIS are a systematic approach to assessing and improving quality in ECE settings. These systems award quality ratings to programs based on standards defined by the state. Many child care subsidy programs provide better child care subsidy reimbursement rates to providers that meet higher ratings or standards of quality. Quality standards can include whether the program meets certain education and compensation standards among its educators. As of 2016, 18 states included criteria related to compensation in their quality rating standards (Whitebook, McLean, and Austin 2016). Incorporating compensation in QRIS incentivizes programs to improve quality and compensation simultaneously, especially when states choose to set the higher tiers of reimbursement rates based on the actual cost of quality care (including adequate compensation).

States may also pursue other strategies to increase available funds for improved compensation and program quality. For example, applying the funding formula that allocates local, state, and federal funds for K-12 education to preschool programs can provide a more generous and stable funding mechanism that can translate to better compensation. States can also encourage the formation of shared services alliances, which allow networks of ECE providers to centralize administrative and operational duties. By creating an economy of scale, shared services alliances free up resources that ECE providers can dedicate to improving compensation and program quality.

Table 20 includes three examples that are difficult to classify but reveal the diversity of strategies that can have a bearing on compensation. These include efforts to organize the workforce to facilitate collective bargaining, as is common in K-12 education; convening state compensation committees to develop state-specific recommendations; and conducting information outreach to educators about health insurance marketplace options under the Affordable Care Act.

Indirect strategies can improve compensation and program quality by infusing additional resources into ECE systems or encouraging providers to address compensation issues, but without specific set-asides or mandates, there is no assurance that additional funds will be directed to compensation. However, although direct strategies ensure increased compensation, they may not necessarily improve program quality or ensure other outcomes that are common goals of improving compensation. Some indirect strategies may have the advantage of directly targeting outcomes such as program quality but

have the disadvantage of not necessarily ensuring increased compensation. Meeting the larger goal of a well-compensated workforce that provides high-quality care and education may require a combination of strategies. Key considerations for compensation initiatives are discussed further below.

TABLE 20

Indirect Early Care and Education Compensation Strategies

Strategy	Description	Examples
Professional Development Strategies		
Educational scholarships and bonuses	To incentivize and facilitate professional development, scholarships and bonuses provide financial support to educators for pursuing credentials or rewards for attaining them. The amounts vary considerably across states and depend on the credential. These approaches aim to increase compensation by increasing educators’ qualifications but do not guarantee increased wages or benefits.	T.E.A.C.H Early Childhood provides educational scholarships to ECE professionals to improve education and compensation. Scholarships help cover the cost of tuition, books, travel, and release time, and participants and employers are required to pay part of the scholarship cost. Participants receive a bonus upon completion. In fiscal year 2018, 22 states and the District of Columbia offered these scholarships. Some states have implemented T.E.A.C.H. together with the WAGE\$ wage supplement program (see table 19). ^a Some states and localities offer their own salary supplement programs. The DECAL scholarship program in Georgia is a statewide tuition assistance program for ECE professionals pursuing credentials in early childhood education or child development. ^b
Loan repayment and forgiveness	Loan repayment and forgiveness programs provide financial relief to people entering the ECE field by forgiving or assisting with repayment of their student loans. Eligibility requirements may include working in a particular program or community.	The Illinois Teacher and Child Care Providers Loan Repayment Program provided loan forgiveness up to \$5,000 for educators who entered the child care profession and served low-income areas. It was implemented in coordination with the federal Child Care Provider Loan Forgiveness pilot program, which ended. The Illinois program now applies only to teachers in low-income schools. ^c
Career pathways	Career pathways are comprehensive education and training systems that provide a clear sequence of coursework and training credentials aligned with employer and industry needs. Even when direct funding for wage increases is not available, career pathways programs can provide access to education and training at various career points of entry and frameworks to formalize incremental wage increases. For example, career ladders can be linked to standardized pay increases (based on experience, qualifications, etc.).	As part of its comprehensive ECE career pathways program, the New Mexico Professional Development System developed a six-level, credential-based career lattice designed for people working in home-based and center-based child care programs, Head Start/Early Head Start, home visiting programs, public school programs for children in preschool through third grade, and early intervention programs for children with or at risk for developmental delays and their families (Limardo, Sweeney, and Taylor 2016). ^d
Funding for Quality Improvement		

Strategy	Description	Examples
State and local tax initiatives	<p>States and localities may use tax initiatives to incentivize investment in high-quality ECE programs or raise public funds to be directed toward such programs. These initiatives may indirectly contribute to compensation by increasing the available level of investment in ECE programs and rewarding quality ratings that may have personnel components. Although these tax initiatives can affect compensation, they typically do not direct funds specifically to compensation.</p> <p>One example is tax credits to child care providers or businesses that support quality care for their employees, which may improve compensation indirectly by rewarding quality and providing additional financial resources to programs. Tax credits have also been used to reward individuals and companies for donating money to support the state ECE system, with proceeds used to support child care quality. Special purpose taxes, or levies, have also been used to raise public funds for enhancing the quality of ECE systems.</p>	<p>In addition to educators, the Louisiana School Readiness Tax Credit (also discussed in table 19) also provides tax credits to eligible licensed providers who serve subsidized children and eligible businesses that support child care for their employees. Amounts vary by the quality rating of the facility.^e</p> <p>The Oregon child care contribution tax credit permits individuals or companies to make a cash donation or stock contribution, managed by the state Office of Child Care, to support quality improvements for child care programs. Contributors receive a state tax credit of 50 cents for each dollar contributed.^f</p> <p>In Colorado, Summit County implemented a property tax to support improvements to its ECE programs. Funds supported the Right Start Project, which includes salary supplements, scholarships, support for a shared services alliance, parenting classes, and other initiatives.^g</p>
Quality rating and improvement systems, cost modeling, and tiered reimbursement	<p>Quality rating and improvement systems and tiered reimbursement strategies link program quality and early childhood educator compensation. Incorporating compensation into quality rating systems incentivizes programs to improve program quality and compensation simultaneously, especially when a high rating corresponds to a higher reimbursement rate (which can also help improve compensation).</p> <p>In addition, structuring reimbursement rates at each tier to reflect the actual cost of quality care, rather than market rates, helps provide the resources to improve compensation. Although this strategy does not specifically direct funds to educators, it provides incentives and resources for programs to enhance compensation, including nonsalary benefits.</p>	<p>In 2016, 18 states included salary and benefits in their QRIS standards, 4 included compensation for time spent on professional development, 12 included paid planning and preparation time, and 8 extended at least one of these standards to ratings for home-based providers (Whitebook, McLean, and Austin 2016).</p> <p>In the Massachusetts QRIS, a level three rating incorporates standards such as paid planning time, salary schedules, and at least one other benefit (e.g., paid leave, health insurance, tuition reimbursement). A level four rating requires that benefits include paid vacation, paid sick leave, health insurance, and educational incentives. Standards apply to both center- and home-based providers.^h</p>

Strategy	Description	Examples
Public preschool programs and formula funding	Public preschool programs often have more generous financing structures to support compensation. Employing the K–12 school funding formula for allocating federal, state, and local resources can provide a more stable funding mechanism than other funding sources. Use of the school funding formula does not guarantee higher salaries without mandates to ensure pay parity, but research suggests that formula-based funding is associated with higher wages.	In 2017, the District of Columbia, Iowa, Kentucky, Oklahoma, West Virginia, Colorado, Maine, Vermont, and Wisconsin used their school funding formulas to allocate resources to preschool classrooms (Berman and Kruvelis 2017).
Shared services alliances	Shared services alliances allow networks of ECE providers to centralize administrative and operational duties. By creating an economy of scale, shared services alliances free up resources that ECE providers can dedicate to improving compensation and program quality. Approaches to shared services vary and may include shared resources, administrative support, and educator staff.	Early Learning Ventures in Colorado supports networks of centers and family child care homes that provide members with shared fiscal, administrative, and program support services. Through this approach, ECE programs share the cost of paying a well-staffed, financially stable local nonprofit (the Alliance) to share administrative services. In return, programs save time and money and remain small and independent. ⁱ
Other Strategies		
Organizing the workforce	Unions offer early childhood educators the opportunity to participate in collective bargaining for better wages and workplace conditions. In some cases, educator unions also provide insurance and other services for their members.	Voice of Organized Independent Childcare Educators, organized under the umbrella of the Civil Service Employees Association, represents over 7,200 registered family and licensed group family child care providers in New York State. The group advocates on a range of policy issues and provides benefits such as tuition assistance, CDA scholarships, no-cost dental and vision insurance, and health insurance marketplace outreach and education. ^j
State compensation committees	Workforce compensation committees are a high-level, long-term compensation strategy. Through extensive study, these groups establish action plans to boost early childhood educator wages, improve worker retention, maintain workforce diversity, and improve program quality. State workforce committees can provide state-specific recommendations to effectively increase compensation for the ECE workforce.	The Illinois Workforce Compensation Subcommittee was convened in 2014 to address compensation in the ECE workforce. The committee reviewed workforce data and demographics, developed suggested pay ranges for compensation parity aligned with qualifications and roles, and identified state-specific strategies to secure and retain a skilled and well-compensated workforce. ^k

Lessons from the Health Care Sector

Several entry-level health care occupations are critical parts of the health care system and in high demand but pay relatively low wages with minimal benefits. These include home health aides, who provide routine health care (e.g., changing bandages and applying topical medications), usually at the patient's home, and nursing assistants, who provide basic patient care under the direction of nursing staff, usually in long-term care facilities or hospitals. Efforts are being made to professionalize these jobs by changing credential requirements or increasing training and improving wages and benefits.

In Washington State, the Service Employees International Union 775 joined with home care employers and the state to create the Healthcare NW Training Partnership (Choitz, Helmer, and Conway 2015), the largest provider of training for home health aides in the state. The partnership goes beyond training to support and empower home care workers, bring respect and dignity to the profession, and improve quality of care for clients. It offers advanced training to build career opportunities through its development of a first-in-the-nation registered apprenticeship program for home care aides. In conjunction with these efforts, the state created higher training and certification standards and background checks for home health aide jobs to further professionalize the workforce.

There have also been local efforts to provide advancement opportunities for nursing assistants so they can earn higher wages without having to seek additional formal training or certifications. In Baltimore, Maryland, three hospitals are working with the local health care sector partner Baltimore Alliance for Careers in Healthcare to implement a “nurse extender” position (Klein-Collins and Starr 2007). Nurse extenders are certified nursing assistants trained to do several additional tasks usually done by nurses, such as administering intravenous medicines. These jobs helped alleviate demand for more nurses and led to a pay increase for nursing assistants from \$11.41 per hour to \$12.74.

Considerations for Compensation Initiatives

Our interviews and review of the literature on ECE compensation suggest that the following considerations can inform a strategic approach to compensation initiatives:

- **Addressing both wages and benefits.** Although many initiatives focus on improving wages, compensation also includes key benefits such as health insurance, retirement, paid leave, and paid planning time. As discussed in chapters one and two, both wages and access to benefits are low among the ECE workforce, especially for educators outside of school settings, and may contribute to the high turnover in the field. To address this, benefits can be incorporated into

strategies such as pay parity mandates, QRIS standards, or grants for increases in base compensation.

- **Addressing base compensation at all levels with stable funding streams.** Strategies that grant temporary or periodic supplements can provide financial support and encourage professionalization, but they do not constitute reliable, ongoing financial relief. This is especially true if they are not part of stable, permanent funding streams or have low benefit amounts, limiting eligibility criteria, or burdensome reapplication requirements. Long-term strategies that address base compensation, both at the entry level and through defined career ladders, may also be needed.
- **Addressing compensation across settings and ages served.** Although low compensation is an issue in the field overall, it varies considerably by setting and ages of children served. As discussed in chapter two, the quality of early learning environments is critical for cognitive and social emotional development beginning at infancy. Educators in all settings contribute to these developmental outcomes. Some strategies may be appropriate to specific segments of the workforce, but a comprehensive initiative would address the needs of educators across all settings and age groups served.
- **Providing mechanisms for linking superior qualifications with increased compensation.** Common indirect compensation strategies focus on supporting professional development. Absent steps to explicitly link education to defined competencies and increased compensation, such as dedicated funds for linking career ladders with wage increases, there is no assurance this strategy will improve compensation.
- **Aligning strategies with an understanding of educators' needs.** Engaging ECE practitioners and stakeholders when developing strategies can ensure that policies are designed to meet educators' needs. For example, the timing and amount of a stipend, reimbursement, or credit can limit or enhance its impact.
- **Evaluating the level of public investment in the ECE system.** An overarching challenge to sustainably increasing compensation is that the ECE system is a complex patchwork of public and private funding streams at the federal, state, and local levels. Many families cover the full cost of care themselves, and relying on higher parent fees to fund compensation increases could exacerbate affordability challenges and push more families into lower-quality, unlicensed care. It will be difficult to substantially improve compensation without investing more public funds.

Technical Appendix

This technical appendix provides further information about our data analysis, specifically, our approach to identifying and defining different categories of early childhood educators and the sample sizes in the American Community Survey.

Defining Early Childhood Educators in the American Community Survey

As noted in the report, our approach to defining elements of the ECE workforce was similar to the categories used by the Government Accountability Office in their report, *Early Child Care and Education: HHS and Education Are Taking Steps to Improve Workforce Data and Enhance Worker Quality* (GAO 2012).

We reported compensation for early childhood educators in three occupational categories, identified by standard occupational codes defined in the data:

1. **center-based educators coded as preschool teachers** (ACS occupational code 2300 and OES standard occupational classification system code 25-2011)
2. **educators coded as child care workers** (ACS occupational code 4600 and OES standard occupational classification system code 39-9011)
3. **teacher assistants** (ACS occupational code 2540 and OES standard occupational classification system code 25-9041)

Each of these occupational categories has a detailed definition maintained by the Bureau of Labor Statistics and a process for coding ACS respondents into different detailed occupations. As a result, the federal ECE occupational categories may not exactly match the categories of interest to stakeholders and policymakers.

These educators are employed in several different settings. We explored three settings of particular interest to the Network:

1. **ECE in school settings** (employed in elementary and secondary schools, ACS industry code 7860). This includes prekindergarten programs in public and private schools and may also include after-school care.

2. **Other center-based ECE** (not self-employed and working in the child day care services industry, ACS industry code 8470, or the religious organizations industry, ACS industry code 9160). This includes preschool and child care programs not in schools, which may be offered by public, private nonprofit, private for-profit, or religious organizations and may serve children of any age.
3. **Family child care** (self-employed and working in the child day care services industry, ACS industry code 8470, or the individual family services industry, ACS industry code 8370). This does not include nannies or home visitors, who have separate occupational codes and are not included in this analysis.

Because very few educators in family child care settings were coded as “preschool teachers,” we combined all family child care educators into one category.

One major limitation of our analysis is that we could not provide information on the compensation of preschool teachers in school-based settings. The ACS does not separately report on “preschool teachers” and instead combines preschool and kindergarten teachers into one occupation. GAO addressed this limitation by including in its definition of early childhood educators “preschool or kindergarten teachers” who work outside of elementary and secondary schools (i.e., the child care industry) and excluding those who do work inside of schools (many of whom will be kindergarten teachers). We followed this approach and omitted “preschool teacher in elementary schools” from our analyses.

Sample sizes for occupations and settings are reported in table A.1 along with weighted estimates of the number of educators in each setting and occupational category. Further detail on sample size by jurisdiction is presented in table A.2.

TABLE A.1

American Community Survey Sample Sizes, Washington Region, by Occupation and Setting

Weighted versus unweighted

	Unweighted	Weighted
Educators coded as preschool teachers	426	8,867
Educators coded as child care workers	979	20,831
Center-based educators (child care)	463	9,793
Family child care educators	374	8,125
School-based educators	142	2,913
All educators	1,405	29,698

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TABLE A.2

American Community Survey Sample Sizes, Washington Region, by Jurisdiction and Occupation

Weighted versus unweighted

	Educators coded as preschool teachers	Educators coded as child care workers	All educators
Unweighted			
Arlington County and Alexandria	23	46	69
Fairfax County	152	245	397
Washington, DC	50	132	182
Montgomery County	116	292	408
Prince George's County	85	264	349
Washington region	426	979	1,405
Weighted			
Arlington County and Alexandria	632	1,126	1,758
Fairfax County	3,076	5,097	8,173
Washington, DC	1,079	2,983	4,062
Montgomery County	2,315	6,290	8,605
Prince George's County	1,765	5,335	7,100
Washington region	8,867	20,831	29,698

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Notes

- ¹ More details on these educator categories, including the survey codes used to identify them, are provided in the technical appendix.
- ² The ACS only collects data on annual earnings, the usual number of hours worked per week, and a range of the usual number of weeks worked per year. Hourly wages are calculated from these quantities. Any measurement error in these three variables would pass through to the hourly wage variable.
- ³ School-based preschool teachers are not included in table 1 or subsequent tables because, as explained in the introduction, they cannot be distinguished from kindergarten teachers in the ACS data. These school-based teachers are likely to have higher annual earnings than center-based preschool teachers because of higher unionization rates, pay parity plans, and generally higher pay in schools than in child care centers. Thus, our estimates would likely be higher if we examined the annual earnings of *all* preschool teachers.
- ⁴ It is important to be judicious about the inclusion of business income. The ACS does not specify whether business income comes from an educator’s child care business or not. Inclusion of business income for school- or center-based early childhood educators risks including income that has nothing to do with their ECE work. We believe the most appropriate approach is to restrict business income to family-based educators. The results are ultimately not sensitive to this assumption.
- ⁵ Authors’ tabulations of the American Community Survey 2011–15 five-year sample. Washington, DC, has a lower median family income than the national median, but all other jurisdictions in the Washington region have a higher median family income than the national median.
- ⁶ We also explored hourly wages for kindergarten teachers in Washington, DC, charter schools. These wages were lower than the Washington, DC, public school average and were not included in our estimate of the ideal benchmark for well-compensated educator jobs.
- ⁷ The Washington, DC, metropolitan statistical area includes the District of Columbia; Calvert County, Charles County, Frederick County, Montgomery County, and Prince George’s County in Maryland; Alexandria, Arlington County, Clarke County, Culpeper County, Fairfax, Fairfax County, Falls Church, Fauquier County, Fredericksburg, Loudoun County, Manassas, Manassas Park, Prince William County, Rappahannock County, Spotsylvania County, Stafford County, and Warren County in Virginia; and Jefferson County in West Virginia.
- ⁸ Authors’ tabulations of the American Community Survey 2011–15 five-year sample.
- ⁹ Total costs for all educators differs slightly from the sum across settings because of the math involved when multiplying averages and, more specifically, the fact that average hours worked varies across settings and is correlated with average wages.
- ¹⁰ Preschool teachers are paid under the same salary scale as K–12 teachers if they work in DC public schools and at the same rate if they have sufficient credentials and if they work in community-based organizations that participate in DC’s universal prekindergarten program (DOE and HHS 2016). Lead teachers in state-funded prekindergarten programs in Maryland have full compensation parity (salaries and benefits) with kindergarten school teachers, and lead teachers in state-funded prekindergarten programs in Virginia have parity in salaries but not benefits; assistant teachers in both states do not have parity (Barnett and Kasmin 2017; DOE and HHS 2016).
- ¹¹ It also does not include family child care teaching assistants because the ACS did not identify any such people in the Washington region. We expect that educators at various levels of responsibility in family child care settings were included in the “family child care educator” category.

¹² “Average Annual Single Premium per Enrolled Employee For Employer-Based Health Insurance,” Kaiser Family Foundation, accessed December 19, 2017, <https://www.kff.org/other/state-indicator/single-coverage/>. We selected all three types of distribution and restricted our analysis to Maryland and Virginia.

¹³ Authors’ tabulations of the American Community Survey 2011–15 five-year sample.

¹⁴ For additional recommendations regarding financing high-quality early care and education systems, see the 2018 National Academy of Sciences, Engineering, and Medicine report, *Transforming the Financing of Early Care and Education*, available at <https://www.nap.edu/catalog/24984/transforming-the-financing-of-early-care-and-education>.

References

- Allegretto, Sylvia, and Ilan Tojerow. 2014. "Teacher Staffing and Pay Differences: Public and Private Schools." *Monthly Labor Review* 137 (1).
- Barnett, W. Steven, and Richard Kasmin. 2017. *Teacher Compensation Parity Policies and State-Funded Pre-K Programs*. Rutgers, NJ: National Institute for Early Education Research.
- Berman, Judy, and Melanie Kruvelis. 2017. "Improving Job Quality for the Early Childhood Workforce." Chevy Chase, MD: The Working Poor Families Project.
- Berman, Judy, Amber Rieke, Kevin Hilgers, and Melanie Kruvelis. 2017. "White Paper: Results from a Survey of DC's Early Childhood Education Workforce." Washington, DC: DC Appleseed.
- Blau, Francine D., Peter Brummund, and Albert Yung-Hsu Liu. 2013. "Trends in Occupational Segregation by Gender 1970–2009: Adjusting for the Impact of Changes in the Occupational Coding System." *Demography* 50 (2): 471–92.
- Boushey, Heather, and Sarah Jane Glynn. 2012. "There Are Significant Business Costs to Replacing Employees." Washington, DC: Center for American Progress.
- Bridges, Margaret, Bruce Fuller, Danny S. Huang, and Bridge K. Hamre. 2011. "Strengthening the Early Childhood Workforce: How Wage Incentives May Boost Training and Job Stability." *Early Education and Development* 22 (6): 1009–29.
- Brown, Jen. 2002. "Washington State Early Childhood Education Career and Wage Ladder Pilot Project: Evaluation Report of Year 1: Summary of Findings." Seattle: Economic Opportunity Institute.
- Cassidy, Deborah J., Joanna K. Lower, Victoria L. Kinter-Duffy, Archana V. Hedge, and Jonghee Shim. 2011. "The Day-to-Day Reality of Teacher Turnover in Preschool Classrooms: An Analysis of Classroom Context and Teacher, Director, and Parent Perspectives." *Journal of Research in Childhood Education* 25 (1): 1–23.
- Child Care Services Association. 2013. "2011-2012 Annual Report." Chapel Hill, NC: Child Care Services Association.
- Choitz, Vickie, Matt Helmer, and Maureen Conway. 2015. *Improving Jobs to Improve Care: The SEIU Healthcare NW Training Partnership*. Washington, DC: The Aspen Institute.
- Claxton, Gary, Matthew Rae, Michelle Long, Anthony Damico, Gregory Foster, and Heidi Whitmore. 2017. *Employer Health Benefits: 2017 Annual Survey*. Menlo Park, CA: Kaiser Family Foundation.
- Dastur, Nina, Indivar Dutta-Gupta, Laura Tatum, Peter Edelman, Kali Grant, and Casey Goldvale. 2017. *Building the Caring Economy: Workforce Investments to Expand Access to Affordable, High-Quality Early and Long-Term Care*. Washington, DC: Georgetown Center on Poverty and Inequality.
- de Schipper, Elles J., J. Marianne Riksen-Walraven, Sabine A.E. Geurts, and Carolina de Weerth. 2009. "Cortisol Levels of Caregivers in Child Care Centers as Related to the Quality of Their Caregiving." *Early Childhood Research Quarterly* 24 (1): 55–63.
- Fraga, Lynette, Dionne Dobbins, and Michelle McCready. 2015. *Parents and the High Cost of Child Care*. Arlington, VA: Child Care Aware of America.
- GAO (US Government Accountability Office). 2012. *HHS and Education Are Taking Steps to Improve Workforce Data and Enhance Worker Quality*. GAO-12-248. Washington, DC: GAO.
- Goelman, Hillel, Barry Forer, Paul Kershaw, Gillian Doherty, Donna Lero, Annette LaGrange. 2006. "Towards a Predictive Model of Quality in Canadian Child Care Centers." *Early Childhood Research Quarterly* 21 (3): 280–95.

- Gormley, William T., Deborah Phillips, and Sara Anderson. 2017. "The Effects of Tulsa's Pre-K Program on Middle School Student Performance." *Journal of Policy Analysis and Management* 37 (1): 63–87.
- Gould, Elise. 2015. "Child Care Workers Aren't Paid Enough to Make Ends Meet." Washington, DC: Economic Policy Institute.
- Great Start DC. 2011. *The State of Infant and Toddler Care in the District of Columbia: Baseline Quality Study and Workforce Survey Executive Summary*. Washington, DC: Great Start DC.
- Grunewald, Rob. 2016. "Investments in Young Children Yield High Public Returns." *Cascade* 93. Philadelphia: Federal Reserve Bank of Philadelphia.
- Heckman, James, Rodrigo Pinto, and Peter Savelyev. 2013. "Understanding the Mechanisms Through Which an Influential Early Childhood Program Boosted Adult Outcomes." *American Economic Review* 2013 103 (6): 2052–86.
- Helburn, Suzanne W., ed. 1995. *Cost, Quality, and Child Outcomes in Child Care Centers: Technical Report*. Denver: University of Colorado at Denver, Department of Economics, Center for Research in Economic and Social Policy.
- (IOM and NRC) Institute of Medicine and National Research Council. 2015. *Transforming the Workforce for Children Birth through Age 8: A Unifying Foundation*. Washington, DC: The National Academies Press.
- Hendey, Leah. 2017. "Racial Inequities in the Washington, DC, Region: 2011–15." Washington, DC: Urban Institute.
- Isaacs, Julia B. 2007. "Cost Effective Investments in Children" Washington, DC: Brookings Institution.
- Karoly, Lynn A., M. Rebecca Kilburn, and Jill S. Cannon. 2005. *Early Childhood Interventions: Proven Results, Future Promise*. Santa Monica, CA: RAND Corporation.
- Karoly, Lynn A., Peter W. Greenwood, Susan S. Everingham, Jill Hoube, M. Rebecca Kilburn, C. Peter Rydell, Matthew Sanders, and James Chiesa. 1998. *Investing in Our Children: What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions*. Santa Monica, CA: RAND Corporation.
- Kashen, Julie, Halley Potter, and Andrew Stettner. 2016. *Quality Jobs, Quality Child Care: The Case for a Well-Paid, Diverse Early Education Workforce*. New York: Century Foundation.
- Klein, Elisa L., Xiaying Zheng, Gail L. Sunderman, Angela K. Hennenberger, Laura M. Stapleton, and Michael E. Woodley. 2016. *Preparation and Retention of the Early Childhood Care and Education Workforce in Maryland*. Baltimore: Maryland Longitudinal Data System Center.
- Klein-Collins, Rebecca, and Rebecca Starr. 2007. *Advancing in Health and Health Care Careers—Rung by Rung: Applying a Work-based Learning Model to Develop Missing Rungs on a Nursing Career Ladder*. Washington, DC: Jobs for the Future.
- Limardo, Chrys, Teresa Sweeney, and Laura Taylor. 2016. *Early Learning Career Pathways Initiative: Credentialing in the Early Care and Education Field*. Washington, DC: US Department of Education, Office of Early Learning.
- McCoy, Dana Charles, Hirokazu Yoshikawa, Kathleen M. Ziol-Guest, Greg J. Duncan, Holly S. Schindler, Katherine Magnuson, Rui Yang, Andrew Koepf, and Jack P. Shonkoff. "Impacts of Early Childhood Education on Medium- and Long-Term Educational Outcomes." *Educational Researcher* 46 (8): 474–87.
- Marshall, Nancy L., Cindy L. Creps, Nancy R. Burstein, Frederic B. Glantz, Wendy Wagner Robeson, and Steve Barnett. 2001. "The Cost and Quality of Full Day, Year-round Early Care and Education in Massachusetts: Preschool Classrooms, Executive Summary." Wellesley, MA: Wellesley Centers for Women and ABT Associates Inc.
- NSECE (NSECE Project Team). 2013. *Number and Characteristics of Early Care and Education (ECE) Teachers and Caregivers: Initial Findings from the National Survey of Early Care and Education (NSECE)*, OPRE Report #2013-38. Washington DC: U.S. Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research, and Evaluation.

- . 2014. *Characteristics of Center-based Early Care and Education Programs: Initial Findings from the National Survey of Early Care and Education (NSECE)*, OPRE Report #2014-73a. Washington DC: U.S. Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research, and Evaluation.
- Phillips, Deborah A., Mark W. Lipsey, Kenneth A. Dodge, Ron Haskins, Daphna Bassok, Margaret R. Burchinal, Greg J. Duncan, Mark Dynarski, Katherine A. Magnuson and Christina Weiland. 2017. *Puzzling It Out: The Current State of Scientific Knowledge on Pre-Kindergarten Effects*. Washington, DC: Brookings Institution.
- Phillips, Deborah, Debra Mekos, Sandra Scarr, Kathleen McCartney, and Martha Abbott-Shim. 2000. "Within and Beyond the Classroom Door: Assessing Quality in Child Care Centers." *Early Childhood Research Quarterly* 15 (4): 475–96.
- Phillips, Deborah, Lea J. E. Austin and Marcy Whitebook. 2016. "The Early Care and Education Workforce." *The Future of Children* 26 (2): 139–58.
- Reynolds, Arthur J., Judy A. Temple, Dylan W. Robertson, and Emily A. Mann. 2002. "Age 21 Cost-Benefit Analysis for the Title I Chicago Child-Parent Centers." *Educational Evaluation and Policy Analysis* 24 (4): 267–303.
- Rhodes, Holly, and Aletha Huston. 2012. "Building the Workforce Our Youngest Children Deserve." *Social Policy Report* 26 (1): 1–31.
- Rohacek, Monica, Erica Greenberg, and Meg Massey. 2016. *The State of the Science on Early Childhood Interventions. Pay for Success Early Childhood Education Toolkit Report #1*. Washington DC: Urban Institute.
- Rolnick, Art, and Rob Grunewald. 2003. *Early Childhood Development: Economic Development with a High Public Return*. Minneapolis, MN: Federal Reserve Bank of Minneapolis.
- Sakai, Laura. 2014. "Economic Insecurity and Early Childhood Teaching." In *Worthy Work, Still Unlivable Wages: The Early Childhood Workforce 25 Years after the National Child Care Staffing Study*, edited by Marcy Whitebook, Deborah Phillips, and Carollee Howes, 41–54. Berkeley, CA: Center for the Study of Child Care Employment.
- Shonkoff, Jack P., and Deborah A. Phillips, eds. 2000. *From Neurons to Neighborhoods: The Science of Early Childhood*. Washington, DC: The National Academies Press.
- Smith, Alexander. 2015. "The Long-Run Effects of Universal Pre-K on Criminal Activity."
- The Network (Washington Region Early Care and Education Workforce Network). 2016. *Implementation Plan for Competency-Based Pathways*. Washington, DC: Washington Region Early Care and Education Workforce Network.
- Totenhagen, Casey J., Stacy Ann Hawkins, Deborah M. Casper, Leslie A. Bosch, Kyle R. Hawkey, and Lynne M. Borden. 2016. "Retaining Early Childhood Education Workers: A Review of the Empirical Literature." *Journal of Research in Childhood Education* 30 (4): 585–99.
- DOE and HHS (US Department of Education and US Department of Health and Human Services). 2016. *High-Quality Early Learning Settings Depend on a High-Quality Workforce: Low Compensation Undermines Quality*. Washington, DC: US Department of Education and US Department of Health and Human Services.
- Ullrich, Rebecca, Katie Hamm, and Rachel Herzfeldt-Kamprath. 2016. *Underpaid and Unequal: Racial Wage Disparities in the Early Childhood Workforce*. Washington, DC: Center for American Progress.
- VECF (Virginia Early Childhood Foundation). 2017. *The Commonwealth's Brain Builders: Virginia Early Childhood Workforce Survey 2017*. Richmond: Virginia Early Childhood Foundation.
- Whitebook, Marcy and Laura Sakai. 2003. "Turnover Begets Turnover: An Examination of Job and Occupational Instability among Child Care Center Staff." *Early Childhood Research Quarterly* 18 (3): 273–93.
- Whitebook, Marcy, Caitlin McLean, and Lea J.E. Austin. 2016. *Early Childhood Workforce Index 2016*. Berkeley, CA: Center for the Study of Child Care Employment.

- Whitebook, Marcy, Deborah Phillips, and Carollee Howes. 2014. *Worthy Work, Still Unlivable Wages*. Berkeley, CA: Center for the Study of Child Care Employment.
- Whitebook, Marcy, Laura Sakai, Emily Gerber, and Carollee Howes. 2001. *Then & Now: Changes in Child Care Staffing, 1994-2000*. Washington, DC: Center for the Child Care Workforce.
- Whitebook, Marcy, Lea J.E. Austin, and Felippa Amanta. 2015. "Addressing Infant-Toddler Teacher Compensation." Washington, DC: US Department of Health and Human Services, Administration for Children and Families.

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