

## Early Childhood Research Brief

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# Early Childhood Educator Pay Equity Fund: Do Economic Returns Change Over Time?

Washington, DC's Early Childhood Educator Pay Equity Fund (PEF), launched in 2022, is the nation's first dedicated public funding stream to address pay disparities between child care and early education (CCEE) educators and public school teachers. Initially structured as temporary fixed payments delivered directly to educators, the program shifted in fiscal year (FY) 2024 to a facility payroll model designed to align educator pay with an established salary scale. In FY 2023, the PEF also began providing access to subsidized health insurance through the HealthCare4ChildCare (HC4CC) initiative.



As part of a [broader study](#) evaluating the impact and cost effectiveness of the PEF, Mathematica—working in partnership with DC Action and the Early Care and Education Funder's Collaborative based at the Washington Area Women's Foundation—is studying its economic returns. Analysis of the PEF in FY 2023 found that although the program represented a substantial public investment, the total economic value of its benefits exceeded costs by a considerable margin (Belfield and Schochet 2024). This research brief presents updated findings for FY 2024 to determine whether the program, after transitioning to a new payment model, continued to generate positive economic returns in its third year.

### Summary of key findings

- The total FY 2024 cost of the PEF is \$76 million, compared to \$54 million in FY 2023.
  - This increase reflects larger average educator payments and the introduction of facility administrative costs under the facility payment model.
- The total FY 2024 economic value of program benefits for educators, facilities, and families is \$93 million, compared to \$67 million in FY 2023.
  - Higher benefit estimates reflect new evidence on labor market impacts, larger wage payments, and how benefits are realized as the program matures.
  - Benefits to families—through increased access and improved quality of CCEE services—account for the largest share of total benefits.
- Overall, FY 2024 benefits exceed costs by \$16 million, and the estimated social return on investment is 21 percent, similar to the estimated return of 23 percent in FY 2023.

Compensation for child care and early education (CCEE) educators is a persistent policy challenge with broad implications for the CCEE sector and the children and families it serves. Research consistently demonstrates the critical role CCEE educators play in shaping children’s development during the early years (Hamre et al. 2014; Mashburn et al. 2008; Peisner-Feinberg et al. 2001; Phillips et al. 2016). Yet they are among the lowest-paid workers in the United States, especially those employed outside of school-based settings and who comprise the majority of the workforce. As of May 2024, the median hourly wage for child care educators was \$15.41—more than 50 percent below that of preschool teachers in school-based settings and 39 percent below the median across all occupations (U.S. Bureau of Labor Statistics 2025).

The wage gap between CCEE educators and public school teachers has important economic consequences. Often, it can be a false economy to pay low wages. Low wages lead workers to quit more often; firms must repeatedly hire new workers. In the CCEE sector, estimates suggest that as many as 25 to 40 percent of CCEE educators leave their employer within a year, which is more than double the turnover rate for K–12 educators (Bryant et al. 2023; Caven et al. 2021; Doromal et al. 2022). This labor force churning reduces productivity and increases costs; the quality of child care then deteriorates. CCEE workforce instability has negative consequences for child development (Choi et al. 2019; Markowitz 2024) and makes it more difficult for families to access high-quality services (Doromal et al. 2022).

## The Early Childhood Educator Pay Equity Fund

Washington, DC’s Early Childhood Educator Pay Equity Fund (PEF) represents the nation’s first dedicated public funding stream designed to sustain meaningful increases in CCEE educator compensation at scale. Launched in fall 2022, the PEF seeks to address the earnings disparity between CCEE

educators and public school teachers, primarily by increasing educator wages (Exhibit 1; DC Office of the State Superintendent of Education [OSSE] n.d.[a]). Across fiscal years (FYs) 2022 and 2023, the PEF delivered direct payments to more than 4,000 educators employed in licensed CCEE facilities, supplementing annual wages by \$14,000 for full-time teachers, \$10,000 for full-time assistant teachers, and half of these amounts to part-time staff in each role.<sup>1</sup> In FY 2022, wage supplements were initially delivered as a lump sum, whereas the FY 2023 supplements were disbursed quarterly (DC OSSE 2024a).

In FY 2024, the PEF shifted from a direct educator payment model to a facility payment model that implemented a salary scale for eligible educators and required participating facilities to use program awards to meet the salary targets. To determine facility awards, OSSE established a payroll funding formula based on (1) calculated differences between estimated current salaries and minimum required salaries designed according to the DC Public Schools salary scale at the time; (2) an enhancement for facilities serving greater shares of families with lower incomes whose care was subsidized; and (3) estimated administrative costs related to facilities’ participation in the program (DC OSSE n.d.[b]). Facilities employing educators who would have previously been eligible for the direct payments could opt into the program if they agreed to use the funds, once awarded, to meet or exceed the minimum salaries established for those educators.<sup>2</sup>

The PEF also funds HealthCare4ChildCare (HC4CC), which, in January 2023, began providing access to free or lower-premium health insurance to CCEE staff and their families through the DC Health Benefits Exchange, which is operated by the DC Health Benefits Exchange Authority (HBX; Kasselmann 2025). Staff may qualify for HC4CC through their employer or independently. HC4CC guarantees health insurance subsidies for 12 months after enrollment, which occurs on a rolling basis.

### Exhibit 1. Timeline of key events related to the Pay Equity Fund



Source: *Toward Pay Equity: A Case Study of Washington, DC’s Wage Boost for Early Childhood Educators* (Box 2 in Greenberg et al. 2023) and the Early Childhood Educator Pay Equity Fund (Timeline and History; DC OSSE n.d.[a]).

### Studying the economic returns of the program

The primary goal of the PEF is to align CCEE educator compensation with that of public school teachers. Nevertheless, because the program requires investment of public resources, it is important to determine its economic value (Gundersen 2024; Whitney and McLean 2024). It is also important to adopt a social perspective: supporting CCEE educators generates various benefits to private households and public agents.

We can therefore derive the PEF’s social economic returns by comparing the costs incurred to implement the program in a period with the predicted dollar value of its potential benefits for stakeholders. The costs of the PEF include the wage payments and health insurance subsidies for educators in the participant cohort as well as resources for administration and governance.

Benefits are grouped into those mediated through the PEF’s influence on educators, facilities, and families of children enrolled in care (Exhibit 2):

**Benefits to educators reflect how higher compensation and health coverage affect worker productivity, labor force attachment, health, and financial security.** Higher pay reduces absenteeism (O’Sullivan 2022; Pfeifer 2010) and generates cost savings by reducing the time and resources required to manage worker coverage and monitor absenteeism. Higher wages also reduce turnover and increase labor market attachment (Bassok et al. 2021; Bellows et al. 2022). This enables workers to gain work experience and job skills that increase their lifetime wage returns. Health coverage leads to improved health status, gains in productivity and income, and reductions in medical debt.



**Benefits to facilities reflect reduced turnover and lower recruitment and training costs.** High educator turnover and absenteeism undermine the operational efficiency of the facilities in which they work. High levels of workforce attrition require programs to spend scarce resources on recruitment, training, and substitute coverage while losing institutional knowledge and established relationships (Bryant et al. 2023; Caven et al. 2021; Doromal et al. 2022; McCormick et al. 2022; Whitebook and Sakai 2003). By

increasing educator income, the PEF reduces turnover and leads to lower recruitment and training costs.

**Benefits to families reflect increased access to child care services and improvements in quality.** Staffing shortages and high turnover limit families’ access to care (Grunewald et al. 2022; McLean et al. 2024); disrupt the stable, responsive relationships that underpin high-quality early learning experiences

(Markowitz 2024; Phillips et al. 2016); and undermine professional development and quality improvement efforts (Hale-Jinks et al. 2006; Hall et al. 2024). By increasing the number of CCEE educators through its effects on the labor market, the PEF expands families’ access to care. It also improves quality both directly through enhanced educator productivity and indirectly through greater workforce stability.

**Exhibit 2. Theorized benefits of the Pay Equity Fund for educators, facilities, and families**

 Educators	 Facilities	 Families
<ul style="list-style-type: none"> <li>• Fewer absences from work</li> <li>• More work experience</li> <li>• Public benefits savings</li> <li>• Lower health expenditures</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced turnover and recruitment savings</li> <li>• More stable, efficient operations</li> </ul>	<ul style="list-style-type: none"> <li>• Increased access to services</li> <li>• Early care and education quality improvements</li> </ul>

Benefits of the PEF arise from increased educator income—both direct gains from PEF wage payments and indirect gains from subsidized health insurance—as well as direct benefits of health coverage. Where it is necessary to distribute a benefit between both program components, health insurance is modeled additively to wages and assumed to be income-equivalent.<sup>3</sup> Benefits are reported for the cohort of educators who received PEF payments, of whom a subset also received health coverage through HC4CC.

We compare program costs and benefits from a social perspective.<sup>4</sup> Social benefits exclude the value of wage payments and subsidized health coverage, which represent public transfers from DC taxpayers to educators. Some program governance costs are incurred outside of the DC Budget Authority and some social benefits do accrue to agencies or groups outside of DC (such as educators or families that are not residents), but most costs and benefits are localized to DC.<sup>5</sup> As such, the social benefit-cost ratio is the valid metric for determining the PEF’s value from DC’s perspective.

**The current study**

An earlier benefit-cost study determined the social economic value of the PEF in FY 2023, when educators received direct wage supplements and subsidized health insurance through HC4CC (Belfield and Schochet 2024). Findings suggested that the program was socially efficient. Full annual costs were calculated at \$54 million, and the total one-year sum of benefits was calculated at \$67 million, for net benefits of \$12 million and a 23 percent one-year return on investment (Belfield and Schochet 2024).

In this brief, we model the PEF’s economic returns in FY 2024, following the transition to its intended permanent design. We document whether the PEF continued to generate social benefits that exceed costs following the transition to the facility payment model. We account for changes in program expenditures and reported costs. We incorporate new evidence on program effects—and therefore on the economic benefits of the program—and changes in how benefits are realized as the program continues. We present

findings on budgeted and actual program costs, the value of program benefits, and the program's social return on investment. Appendix A provides additional details about the study parameters (Table A.1) and results (Table A.2).

## What did the PEF cost in FY 2024?

The PEF is a significant commitment of dollars for CCEE within DC. In FY 2024, the total PEF budget allocation was \$69.5 million, including \$12 million for HC4CC (DC Code § 4–410.04). Actual program costs may further exceed budgeted allocations as OSSE and HBX are permitted to carry over funds between program years and may use alternative revenue sources to fund program administrative and governance costs.

In this section we report on the actual costs incurred by the program in FY 2024 by program component and overall. Program costs are based on written responses from OSSE and HBX to performance oversight hearing questions submitted to the DC Council as well as correspondence with agency staff. Total program costs are discussed relative to the FY 2024 budget allocation as well as total program costs in FY 2023. Exhibit 3 presents the actual costs of the PEF in FY 2024 by program component.

### Wage payments

**In FY 2024, the total cost of the wage payment component of the PEF was \$67.84 million.** Program costs predominantly result from educator wage payments. In FY 2024, costs for the wage payment component included total facility awards and OSSE funds to govern the program and engage participants. As previously discussed, OSSE began to administer educator payments through a facility payment model, using a facility payroll funding formula to calculate the size of the award that would allow participating facilities to meet minimum required salaries for eligible educators. Facility awards included both funds for the wage payments themselves as well as funds to help facilities implement the program, including staff time to disburse educator payments and increased payroll taxes (DC OSSE 2023b).

Of the \$67.84 million spent on the wage payment component, facility awards accounted for all but \$0.6 million, which covered OSSE's administrative costs (correspondence with DC OSSE, March 2026).<sup>6</sup> Of the total awarded to facilities, \$61.19 million was routed through employer payrolls to increase wages for 4,029 educators.<sup>7</sup> This implies an average FY 2024 wage payment of \$15,190, which is about 50 percent larger than the average FY 2023 wage supplement of \$10,260 (also provided to about 4,000 educators). The remaining \$6.05 million represents the estimated share of facility awards used to cover facility administrative costs.<sup>8</sup>

### Health insurance subsidies

**In FY 2024, the full social cost of the health insurance subsidies component of the PEF was \$8.58 million.**

HC4CC costs include expenditures on health insurance premiums for CCEE staff (and dependents, if staff are DC residents) as well as administrative costs incurred by HBX. The total FY 2024 cost to provide low- or no-cost health insurance to 1,607 CCEE staff and 360 dependents was \$10.19 million (DC HBX 2025).<sup>9</sup> Because all CCEE staff were eligible for health coverage, we adjusted both total premium costs and enrollment levels by the estimated share of all CCEE staff eligible for the wage payments (80 percent).<sup>10</sup> We therefore calculated that \$8.15 million were spent on insurance premiums for 1,286 eligible educators (and 288 dependents), suggesting an average health insurance subsidy valued at \$5,180 per educator.<sup>11</sup>

FY 2024 HBX administrative costs are calculated at 5 percent of total HC4CC spending, or \$0.43 million (correspondence with DC HBX, March 2026).

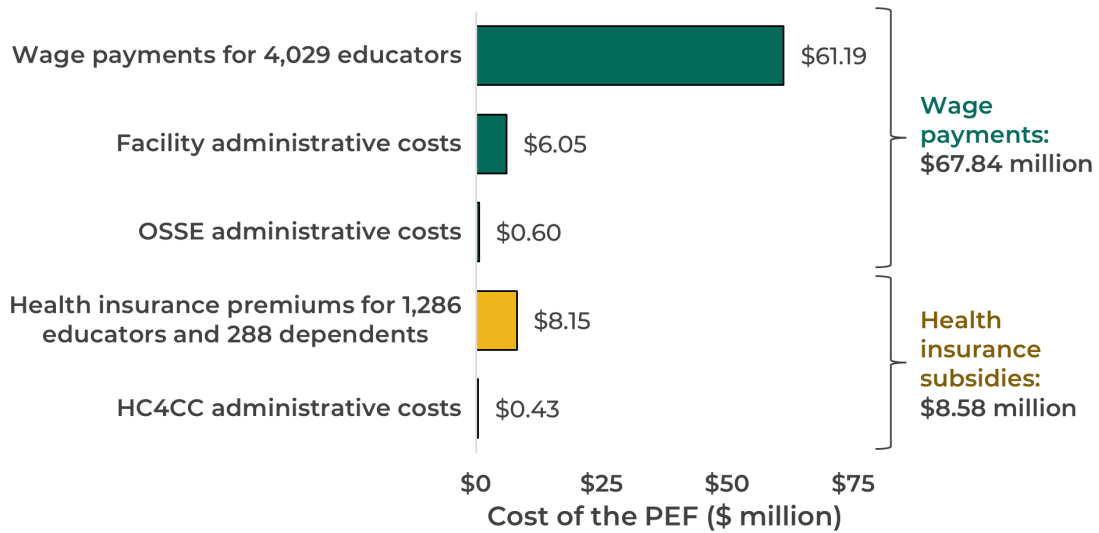
### Total public investment in the PEF

**Total investment in the PEF in FY 2024, including costs of the wage payments and health insurance subsidies, was \$76.42 million.** Total costs exceeded the FY 2024 budget allocation, with carryover funding from prior years used as additional revenue to meet the full cost of the wage payments. OSSE and HBX also used other sources of revenue to support agency

administrative costs.<sup>12</sup> Total program costs in FY 2024 were also substantially higher than total program costs in FY 2023, which were calculated as \$54.22 million in the earlier study. This increase is primarily driven by the larger educator payments required to

meet the minimum salaries under the facility payment model, as previously noted. In addition, the shift in program model also introduced facility administrative costs related to program participation and distribution of wage payments through payroll.

Exhibit 3. Cost of the Pay Equity Fund in fiscal year 2024



### What was the economic value of the PEF’s benefits in FY 2024?

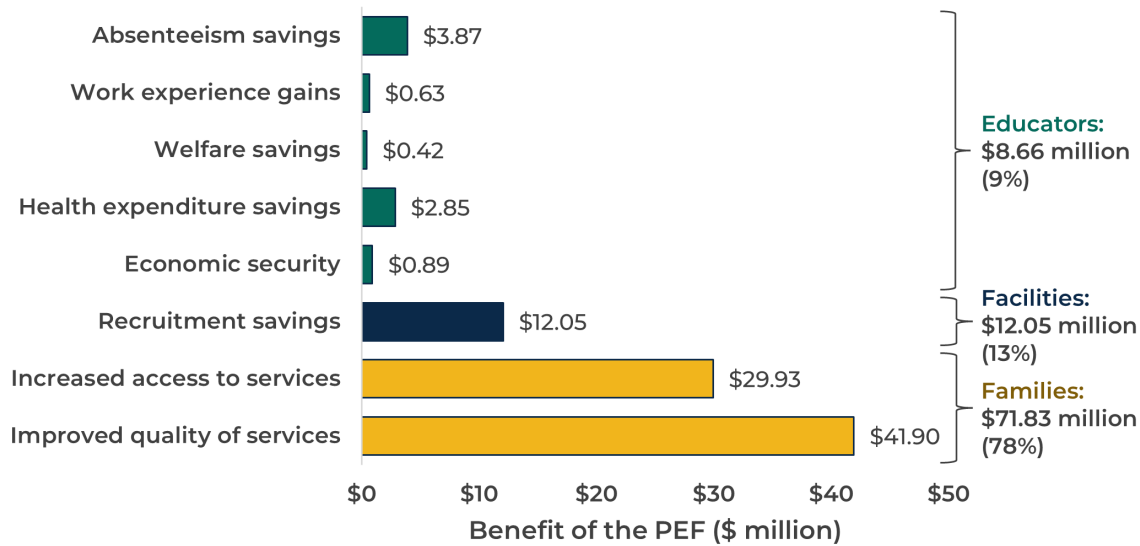
As described above, we calculated the total value of the program’s anticipated benefits in FY 2024 as the sum of the benefits theorized to operate through changes for educators, facilities, and families. We determined benefit parameters using a combination of three methods:

- Direct evidence on the PEF, including studies of program implementation and impact on CCEE sector and labor market outcomes.
- Evidence from broader research literature, including studies linking compensation to turnover and worker productivity and research on changes in health insurance.
- Calibration assumptions, such as parental willingness to pay for higher-quality care.

Below, we describe the estimated benefit valuations for educators, facilities, and families, as presented in Exhibit 4. We also describe our approach to estimating each benefit value. As noted above, the analysis reflects the PEF as of FY 2024 and incorporates available evidence from this period. We highlight any updates to the benefit valuation parameters used in the earlier study (Table A.1 presents additional details on the study parameters).

Benefits are reported for the cohort of 4,029 educators receiving wage payments and the subset of 1,286 educators (and 288 dependents) receiving subsidized health coverage. For benefits affected by both program components, HC4CC valuations are scaled to reflect both the relative size of the health insurance subsidy (\$5,180) compared to the average wage payment (\$15,190) and the number of educators receiving coverage.<sup>13</sup>

Exhibit 4. Benefits of the Pay Equity Fund in fiscal year 2024



### Benefits to educators

**The total value of the PEF to educators in FY 2024 was \$8.66 million.** This aggregates benefits due to absenteeism savings, work experience gains, welfare savings, health expenditure savings, and enhanced economic security.

**Absenteeism savings.** Higher pay is associated with lower absenteeism. The sector-wide baseline absenteeism rate for CCEE educators is 3.8 percent (U.S. Bureau of Labor Statistics [BLS] 2025). With increased earnings from the PEF, this rate is expected to fall to 2.1 to align with the rate in the private education sector and evidence in Morrissey and Bowman (2024). The associated benefits reflect the wage value (including employer cost of compensation assumed at 41 percent [U.S. BLS 2024]) of reduced absenteeism. *Reductions in absenteeism yield \$3.87 million in benefits from wage payments and health insurance.*

**Work experience gains.** Higher pay encourages workers to stay in the labor market and gain valuable work experience and skills to build their careers (Center for the Study of Child Care Employment 2024; Doromal et al. 2024; Schochet 2024). Recent evidence from Fee (2024) shows that 15 percent of CCEE

educators exit annually to unemployment rather than to an alternative job—a rate more than 50 percent higher than the national labor market exit rate. The labor market exit rate is expected to fall from 15 percent to 2 percent (see Key update 1). We use wage returns estimated at 3 percent per year (Guvonen et al. 2022). *The labor market participation wage benefit from wage payments and health insurance is \$0.63 million.*



#### Key update 1

We updated our expectation about the **reduction in educators' exit rate to unemployment:**

- FY 2023 analysis: 15 to 5 percent
- FY 2024 analysis: 15 to 2 percent

We expect that the larger wage payments further decreased exits to unemployment.

**Welfare savings.** Higher pay reduces reliance on welfare supports. In 2020, the poverty rate for CCEE educators in DC was nearly 35 percent, compared to 6 percent for other DC teachers (McLean et al. 2021). The PEF is expected to raise all CCEE educators above the federal poverty line and reduce health-related welfare payments, although some workers may still be eligible for welfare assistance. This generates economic benefits that come from fiscal savings from having to

administer welfare programs. DC has the highest per-capita welfare spending nationally at \$7,000 (U.S. Census Bureau 2020). The PEF is expected to reduce the welfare rate from 30 percent to 5 percent, in line with the rate for other DC teachers. Based on average public welfare spending in DC and assuming 10 percent administrative costs, administrative fiscal costs are estimated at \$540 per capita. *Total welfare savings from wage payments and health insurance are \$0.42 million.*

**Health expenditure savings.** Health insurance directly conveys a range of health benefits, including fewer premature deaths, better self-reported physical and mental health, and higher rates of care (Office of the Assistant Secretary for Planning and Evaluation [ASPE] 2022; Finkelstein et al. 2012; Sommers 2017). Based on longitudinal and experimental evidence on the effects of health insurance on health status (Barker and Li 2020; Finkelstein et al. 2012), the PEF is expected to increase the probability of being in good health relative to fair or poor health by 7 percent; the difference in medical spending between the two categories is \$11,330.<sup>14</sup> *The health expenditure savings from health insurance are \$2.85 million.*

**Economic security.** Health insurance enhances financial and economic well-being through lower rates of medical debt and better access to credit (ASPE 2022). Based on evidence from Hu et al. (2018) regarding the effect of the Affordable Care Act's Medicaid expansions on medical debt, the expected reduction in medical debt with HC4CC enrollment is \$690 per educator. *The savings in economic security from health insurance are \$0.89 million.*

## Benefits to facilities

**The total value of the PEF to facilities in FY 2024 was \$12.05 million from recruitment savings.** Several studies show that higher pay reduces CCEE turnover (Amadon et al. 2023; Bellows et al. 2022; Bryant et al. 2023; Fee 2024; Morrissey and Bowman 2024; Totenhagen et al. 2016). However, there is limited evidence on the effects of earnings increases comparable in size to the PEF. Using an experimental design, Bassok et al. (2021) found that a \$1,500 pay

increase led to a 50 percent decline in turnover. Other non-experimental studies also suggest negative associations between modest wage increases and site-specific turnover (Caven et al. 2021; Fee 2024; Grunewald et al. 2022; Hall et al. 2024; Markowitz 2024). According to survey data from educators in the PEF, 60 percent strongly agree they plan to continue in their current job because of the program (Sandstrom et al. 2024). Based on this evidence, we estimate a reduction in turnover from 35 percent (the current annual rate) to 5 percent. Recruitment costs reflect resources to manage worker exits, recruitment and hiring resources for new workers, and managerial resources to onboard new workers. We calculated savings from reduced turnover, by convention, as one-quarter of the annual salary of the position (Sears 2017). *Savings in recruitment from wage payments and health insurance are \$12.05 million.*

**Site-specific efficiency gains.** Reductions in absenteeism and turnover can also lead to site-specific efficiency gains, reflecting lower levels of workforce churn and less loss of site-specific capital (McCormick et al. 2022; Roberts et al. 2019). In this analysis, the portion of these gains that improves continuity, consistency, and coordination in classroom operations is reflected in the valuation of improved CCEE quality. Discrete labor cost savings from reduced turnover are also captured in recruitment savings, and some effects of reduced absenteeism are reflected in the valuation of lost labor. The remaining gains, which operate through reduced non-labor inputs and administrative burden, are not captured elsewhere.<sup>15</sup> Because these effects are difficult to quantify with available data and evidence, we do not model them separately.

## Benefits to families

**The total value of the PEF to families in FY 2024 was \$71.83 million.** This aggregates benefits due to increased access to services and improved quality of services.

**Increased access to services.** The PEF directly increases the number of workers in DC's CCEE sector. Schochet and Gonzalez (2026) identified an 11 percent increase in the size of the CCEE workforce by the end

of FY 2024 due to the PEF (see Key update 2). The increase in the size of the workforce may be the result of lower turnover, fewer workers quitting, and new hires to fill staffing vacancies and unmet demand. With the cohort of 4,029 educators, this impact represents about 440 more workers, each of whom we estimate increases access to care for five additional children.<sup>16</sup> We conservatively value each new slot as, for the average DC CCEE facility, the annual expenditure per child (\$27,030; DC OSSE 2024b) scaled by the non-labor share of total costs (50 percent; DC OSSE 2021). *The value of increased access to services when allocated between wage payments and health insurance is \$29.93 million.*



#### Key update 2

We updated our assumption about the **increase in the size of the CCEE workforce**:

- FY 2023 analysis: 7 percent increase
- FY 2024 analysis: 11 percent increase

This update is based on new evidence on the three-year labor market impacts of the PEF (Schochet and Gonzalez 2026), drawing on a quasi-experimental analysis of employment changes relative to comparison jurisdictions. It builds on the two-year study (Schochet 2024), which provided the FY 2023 parameter.

**Improved quality of services.** The PEF is expected to improve the quality of CCEE services across DC through both direct and indirect channels. Higher compensation may increase productivity directly and reduce turnover, which in turn leads to greater continuity of care, deeper knowledge of children's needs, and stronger relationships with families. These channels are supported by a substantial evidence base linking workforce professionalism and stability to higher CCEE quality and improved child outcomes (Bratsch-Hines et al. 2020; Grunewald et al. 2022; Markowitz 2024; Morrissey and Bowman 2024). To quantify the social returns to enhanced quality, we would ideally compare outcomes from settings where educators receive higher and lower pay, or compare

outcomes between well-funded and poorly funded settings. However, there is no existing evidence on these comparisons.

Instead, we modeled differences in parental willingness to pay for CCEE services. We assume the PEF brings CCEE educator quality up to the level high-income families use, and therefore estimate the returns to improved quality of services based on the difference between average spending on CCEE services in high-income families compared to low-income families. High-income families spend \$139 per week more on CCEE than low-income families (Center for American Progress 2019).<sup>17</sup> This figure represents willingness to pay for all CCEE services. We assume that only educator quality is improved, not CCEE quality overall, and therefore multiplied the spending gap by the average labor share of total facility costs (also 50 percent; DC OSSE 2021). Further, we assume that only 75 percent of the labor-quality premium is realized within the year by raising wages for existing educators (see Key update 3). Under the conservative assumption of 40 weeks of care per year (approximating a public school year), the change in parental willingness to pay for teacher quality is estimated at \$2,080.<sup>18</sup> This valuation is relevant for 20,145 children (based on the prior assumption that each participating educator serves five children, on average). *The value of improved quality of services resulting from wage payments and health insurance is \$41.90 million.*



#### Key update 3

We updated our assumption about the **share of the labor-quality premium** that is realized within the year by raising educator wages:

- FY 2023 analysis: 50 percent realized
- FY 2024 analysis: 75 percent realized

This update reflects the increased wage payments and continued growth in positive labor market impacts of the PEF through FY 2024 (Schochet and Gonzalez 2026), as well as potential benefits from an additional year of program implementation.

### Total benefits of the PEF

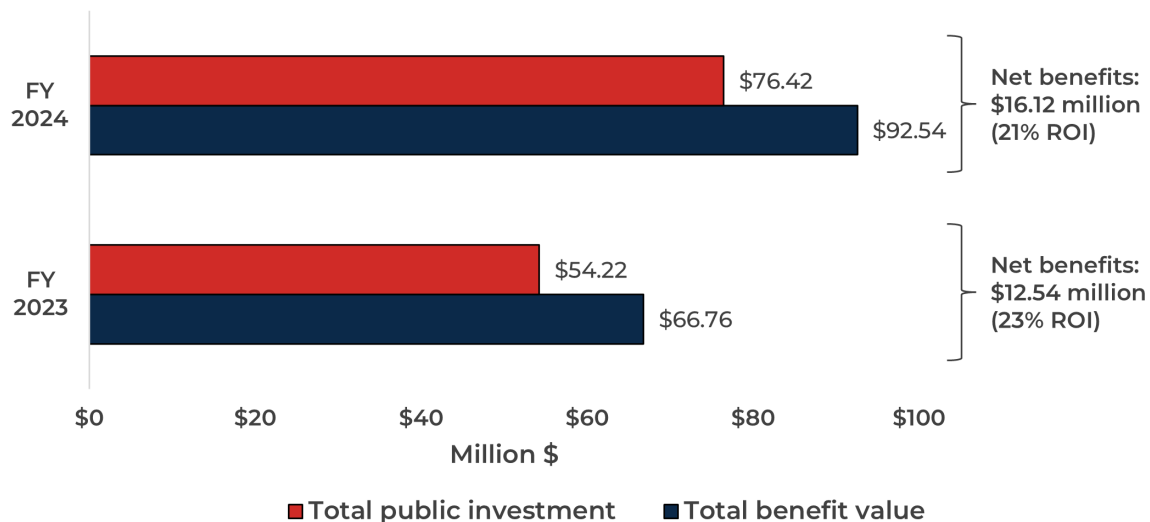
**In total, estimated benefits of the PEF to educators, facilities, and families were \$92.54 million.** Benefits to families, arising from increased access and quality improvements, comprise the majority of benefits (78 percent). Benefits to facilities from recruitment savings comprise 13 percent of benefits, and benefits to educators from reduced absenteeism, labor force attachment, health, and economic security comprise 9 percent.

This indicates a substantial increase in total benefits from FY 2023, in which we valued program benefits at \$66.76 million. The distribution of benefits across groups was similar, however, with benefits to families also comprising the majority of total benefits in FY 2023 (69 percent).

### What was the return on investment of the PEF in FY 2024?

**The benefits of the PEF in FY 2024 exceeded the costs by \$16.12 million. The benefit-cost ratio is 1.21, and the one-year return on investment is 21 percent.** Exhibit 5 presents the economic return of the PEF in each of FY 2023 and FY 2024. We estimated greater net benefits in FY 2024 relative to FY 2023 (\$16.12 million versus \$12.54 million), though when expressed as the ratio of total benefits to total costs (both of which were higher in FY 2024, as previously described), social economic returns were very similar in both years (21 percent in FY 2024 versus 23 percent in FY 2023). Overall, this indicates the PEF remained socially efficient from an economic perspective in its third year after transitioning to the facility payment model.

Exhibit 5. Economic returns of the Pay Equity Fund in fiscal years 2024 and 2023



ROI = return on investment.

### Discussion

The PEF is a novel and substantial investment in the CCEE sector, providing wage payments and subsidized healthcare for CCEE educators in Washington, DC. An earlier analysis of the program’s economic returns in FY 2023 found that the PEF generated benefits that substantially exceeded its

costs. Findings from this study suggest that the PEF sustained similarly positive economic returns one year later. Specifically, we calculated that in FY 2024, the benefits of the PEF exceeded its costs by \$16.12 million, or 21 percent.

The cost of the PEF grew substantially between FY 2023 and FY 2024, increasing from \$54.22 million to

\$76.42 million. This increase was primarily driven by the size of the wage payments made to educators, which rose from approximately \$10,000 per educator in FY 2023 to \$15,000 per educator in FY 2024. A similar number of educators—about 4,000—participated in the program in both years. Increased administrative expenditures, particularly by facilities, also contributed to higher FY 2024 costs, as the PEF shifted from a payment model in which wage supplements were delivered directly to educators, to a facility payment model in which facilities opted into the program, received program awards, and then redistributed those awards to eligible educators as part of their regular payroll wages. Though some cost savings for OSSE resulted from no longer working with educators directly (including managing the distribution of direct payments), these savings were likely overshadowed by the new administrative costs incurred by facilities under the facility payment model. In FY 2023, OSSE incurred about \$3.5 million, whereas in FY 2024, OSSE and facilities incurred nearly \$7 million.

Though total costs increased in FY 2024, so too did the total value of program benefits, which continued to exceed costs. The total valuation of PEF benefits rose from \$66.76 million in FY 2023 to \$92.54 million in FY 2024. Just as larger wage payments primarily drove cost increases, they also increased the size and economic value of the program's social benefits. New evidence indicates that the labor market impacts of the PEF grew substantially from FY 2023 to FY 2024, with the estimated increase in the size of the CCEE workforce rising from 7 percent to 11 percent (Schochet 2024; Schochet and Gonzalez 2026). This is an increase of more than 50 percent, broadly proportional to—and slightly larger than—the increase in wage payments, implying similar returns on investment as the program scaled. To our knowledge, this provides the first evidence not only linking higher compensation to CCEE labor market outcomes but also suggesting a relationship between payment levels and the magnitude of these impacts. Larger labor market impacts, in turn, translate into greater social benefits, particularly for families, through expanded access to and improved quality of

CCEE services. We also see positive returns from the health insurance component of the PEF in FY 2024, specifically. Greater returns to HC4CC likely reflect the value of an additional year of the initiative, which was only launched midway through FY 2023. By FY 2024, HBX had an additional year to (1) recruit and enroll employers and individuals in HC4CC, leading to higher levels of participation over the prior year, and (2) collect the information necessary to determine and report actual (versus budgeted or projected) spending on health insurance premiums.

The economic value of the PEF is based on a series of modeling assumptions on the benefits side, and certain parameters are particularly sensitive or rely on limited direct evidence. In these areas, we adopt conservative assumptions where possible. First, the valuation of quality improvements is based on parental willingness to pay, which likely understates broader social returns on investment in CCEE service quality (Bartik et al. 2023; Hahn and Barnett 2023). Similarly, the value of health coverage is based on private health expenditures rather than individuals' willingness to pay for improved health status directly. Finally, the estimated reduction in facility turnover is informed by a body of evidence linking higher pay to lower turnover, but there is no prior evidence on effects at the scale of the PEF. Ongoing analyses linking PEF payment records to longitudinal workforce registry data will allow us to estimate impacts on retention and workforce dynamics more directly, helping to fill this gap.

Importantly, we present conservative estimates of the economic value of the PEF. The one-year time horizon applied to estimate the benefits of the PEF is likely to understate the value of the PEF, as productivity and health gains are likely to accumulate beyond the focal period, even if program payments change. We also omit some benefits from the analysis due to lack of evidence or imprecision in impacts. This includes site-specific efficiency gains, separate from quality improvements. These residual gains could be larger under the facility payment model if the award payments exceeded the amounts needed to meet minimum salary requirements (and associated

administrative costs), allowing program resources to support other facility functions (Jimenez-Parra et al. 2025). We also omit benefits arising from increases in parental labor supply, although research has established links between CCEE access and parental earnings and employment (Morrissey 2017; Humphries et al. 2024), as well as benefits from co-worker spillovers within CCEE facilities.

Additionally, we do not consider the implications of reducing gaps in pay and health insurance access between CCEE educators and public school teachers. This may be a valuable policy objective independent of economic returns.

Overall, findings indicate that the PEF continues to provide substantial economic returns for Washington, DC, in FY 2024, providing benefits to educators, facilities, and the children and families they serve that exceed its costs.

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## Endnotes

<sup>1</sup> All teaching staff in CCEE facilities licensed by OSSE were eligible to receive PEF payments, with limited exceptions for lead teachers in a small number of licensed center-based facilities participating in DC's mixed-delivery universal pre-K system (DC OSSE 2022). Center-based facility directors and other non-teaching staff (for example, aides, substitutes, cooks, bus drivers, and janitorial staff) were ineligible.

<sup>2</sup> Facilities without sufficient revenue to meet the minimum salary requirements could apply for a waiver from those requirements. In FY 2024, to further assist participating facilities in meeting minimum salary requirements, OSSE provided an additional supplement equal to 30 percent of the base award (DC OSSE 2025).

<sup>3</sup> Where relevant, HC4CC health insurance is modeled as income-equivalent: the PEF increases CCEE educator pay directly by \$15,190 via wage payments and indirectly by \$5,180 via subsidized health insurance. The income elasticity of health spending is assumed to be unitary. Although alternative elasticity values may be plausible, evidence on this parameter remains limited.

<sup>4</sup> All economic costs and benefits are reported in present value 2025 dollars.

<sup>5</sup> Examples of costs not borne by the DC Budget Authority include DC agency administrative costs covered by revenue sources outside of DC taxpayer funds. For example, HBX is funded through assessments received from health issuers (correspondence with DC HBX, March 2026). Examples of benefits that accrue to agencies or groups outside DC include benefits for educators and families who are not DC residents and fiscal benefits that might accrue to federal agencies.

<sup>6</sup> Total facility award costs provided by OSSE (\$67.24 million) are similar to the figure reported in the FY 2024 oversight documents (\$67.32 million; DC OSSE 2025). OSSE did not use PEF funding for FY 2024 administrative expenses, instead using agency funds from other revenue sources, such as federal grants.

<sup>7</sup> OSSE does not track information on the number of educators who received any FY 2024 quarterly payment. We estimated this figure using FY 2024 quarterly participation and the relationship between quarterly and total participation observed in FY 2023. In FY 2023, 4,085 educators received a payment, corresponding to 14,151 total quarterly payments (DC OSSE 2024), or an average of 3.46 payments per educator. Applying this ratio to the 13,939 quarterly payments observed in FY 2024 yields an estimate of 4,029 educators receiving a payment in any quarter.

<sup>8</sup> Facilities participating in the PEF are monitored for compliance with minimum salary requirements; however, OSSE does not track how facilities allocate awarded funds between salaries and program administration. As part of fiscal planning prior to the program year, OSSE projected FY 2024 PEF costs by program component, including each input to the payroll funding formula (DC OSSE 2023b). We used these projections to identify the share of total facility award costs attributable to the administrative enhancement (9 percent), which we applied to the actual facility award total to estimate administrative costs.

<sup>9</sup> As previously noted, employers and employees enroll in HC4CC on a rolling basis, with coverage guaranteed for 12 months. Individuals receive coverage through the end of the calendar year in which they enroll. Plan years therefore do not align with DC fiscal years, which begin in October. We used HC4CC participation levels as of the end of the 2024 calendar year, which HBX reported to describe program enrollment in the FY 2024 performance oversight hearing responses (DC HBX 2025).

<sup>10</sup> National data suggest that about 80 percent of all staff in CCEE facilities in the focal population for HC4CC are teaching staff who would also be eligible for PEF wage payments (based on authors' calculations using the 2019 National Survey of Early Care and Education (NSECE): <https://www.childandfamilydataarchive.org/cfda/archive/s/cfda/studies/37941>). We also verified that the assumption is consistent with OSSE administrative data on the number of educators relative to non-teaching staff in participating center-based facilities.

<sup>11</sup> In FY 2023, 1,140 educators received subsidized health insurance. Because the HC4CC initiative did not begin providing access to health coverage until midway through FY 2023, the earlier study assumed health insurance costs of \$12 million, based on HBX projections of costs to sustain enrollment levels at that time. These projections later informed the FY 2024 budget allocation.

<sup>12</sup> In FY 2024, OSSE program administrative costs were covered by a combination of Child Care and Development Fund discretionary funds, COVID-19 pandemic relief funds, and a private grant (correspondence with DC OSSE, March 2026). HBX, which is funded through assessments received from health issuers, supported the costs of administering HC4CC (correspondence with DC HBX, March 2026).

<sup>13</sup> For educator and facility benefits, health insurance benefits are estimated for the HC4CC cohort and scaled relative to wage payments based on the average value of the health insurance subsidy. For family benefits, total benefits are estimated for the full cohort and then allocated between program components based on their share of total payments, combining both the number of payments made under each component and the relative size of those payments.

<sup>14</sup> Difference in medical spending between good versus fair or poor health in 2025 dollars, based on a gap between \$15,570 and \$6,545 in 2017 dollars. We expect a 5 percent increment in health status for those already insured (from Barker and Li 2020) and a 25 percent increment for the previously uninsured (Finkelstein et al. 2012), and that 10 percent of educators are previously uninsured (based on DC uninsured rates and authors' analysis using data from the 2019 NSECE). Weighting these effects yields an increase of 7 percent in the probability of being in good versus fair or poor health.

<sup>15</sup> Direct site-specific efficiency gains not reflected in teacher quality improvements primarily reflect modest changes in non-labor inputs and administrative time use. These include more efficient use of consumable classroom supplies and materials, reduced need for ongoing training and professional development as staff gain experience, and the reallocation of administrative time away from reactive tasks (such as last-minute scheduling adjustments or ensuring compliance with licensing requirements) toward productive activities that generate higher value. Because these effects are diffuse and not directly observed in available data, we conservatively omitted them from the analysis.

<sup>16</sup> Estimated additional CCEE places are based on DC licensing requirements governing child-to-educator ratios by age group, as well as the distribution of age groups served among PEF participants in OSSE records data (see Doromal et al. 2024). Nikolopoulos et al. (2025) found that, in the fourth quarter of FY 2024, 3,617 educators in the PEF served up to 19,300 children, implying an average ratio of approximately 5.4 children per educator.

<sup>17</sup> Spending on CCEE by income level is from the Center for American Progress (2019). We used the gap between the average of the bottom two quartiles and top two quartiles of family income, adjusted to 2025 dollars.

<sup>18</sup> As an alternative valuation, we used recent data on private CCEE tuition rates in DC (DC OSSE 2024b). We approximate the parental willingness-to-pay gap as one-half of the difference between facilities modeled at the 75th and 25th percentiles of the market rate distribution. Adjusted for the labor cost allocation and assumed short-run realization, the DC market rate gap (\$1,962) is very similar to the main parameter (\$2,078).

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## Technical Appendix

Table A.1. Benefit-cost analysis parameters

Parameter	FY 2024 value	FY 2023 value <sup>a</sup>	Source(s) of FY 2024 value
<b>Costs</b>			
<b>PEF wage payments</b>			
Total facility award payments	\$67.24 million	n.a.	Correspondence with DC OSSE
Educator wage payments	\$61.19 million	\$41.91 million	DC OSSE (2023b)
Facility administrative costs	\$6.05 million	n.a.	DC OSSE (2023b)
OSSE administrative costs	\$600,000	\$44.16 million	Correspondence with DC OSSE
<b>HC4CC health insurance</b>			
Subsidized insurance premiums	\$8.15 million	\$9.6 million	DC HBX (2025)
HBX administrative costs	\$430,000	\$510,000	Correspondence with DC HBX
<b>Cohorts</b>			
CCEE educators in PEF	4,029	4,085	DC OSSE (2025)
CCEE educators with HC4CC	1,286	1,140	DC HBX (2025)
Dependents with HC4CC	288	155	DC HBX (2025)
Median annual non-PEF earnings	\$36,000 <sup>b</sup>	\$35,000	Schochet (2023)
Average direct change from PEF wage payment	\$15,190	\$10,260	DC OSSE (2025); Correspondence with DC OSSE
Average indirect change from HC4CC insurance subsidy	\$5,180	\$7,410	DC HBX (2025)
<b>Benefits</b>			
<b>Educators</b>			
<b>Absenteeism savings</b>			
Change in absenteeism rate	0.038 to 0.021	0.038 to 0.021	U.S. BLS (n.d.); Morrissey and Bowman (2024)
Employer costs of compensation	0.41	0.41	U.S. BLS (2024)
<b>Work experience gains</b>			
Return to skills	0.03	0.03	Guvenen et al. (2022)
Change in unemployed quit rate	0.15 to 0.02	0.15 to 0.05	Fee (2024)
<b>Welfare savings</b>			
Welfare amount	\$540 <sup>b</sup>	\$525	U.S. Census Bureau (2020) <sup>c</sup>
Change in welfare rate	0.30 to 0.05	0.30 to 0.05	U.S. Census Bureau (2020) <sup>c</sup>
<b>Health expenditure savings</b>			
Gap in medical spending between fair/poor and good health	\$11,330 <sup>b</sup>	\$11,040	Barker and Li 2020; Belfield and Schochet 2024; Finkelstein et al. 2012
Change in health status (margins, percent)	0.07	0.07	Barker and Li (2020); Finkelstein et al. (2012)

Parameter	FY 2024 value	FY 2023 value <sup>a</sup>	Source(s) of FY 2024 value
Medical debt	\$690 <sup>b</sup>	\$670	Hu et al. (2018)
<b>Facilities</b>			
Recruitment savings			
Recruitment cost (percent of earnings)	0.25	0.25	Sears (2017)
<b>Families</b>			
Non-labor cost share	0.50	0.50	DC OSSE (2021)
Average child–teacher ratio	5:1	5:1	DC OSSE (2024); Doromal et al. (2024)
Increased access to services			
Change in labor supply (margins, percent)	0.11	0.07	Schochet and Gonzalez (2026)
Average CCEE cost per child	\$27,030	\$26,540	DC OSSE (2024b)
Improved quality of services			
Parental willingness to pay	\$4,160	\$2,650	Center for American Progress (2019)

Note: Values in 2025 dollars. Costs and benefits based on PEF implementation in fiscal year (FY) 2024. The FY 2023 benefit-cost analysis referred to the educator payments as wage *supplements* because they were delivered directly to educators rather than as part of educators' regular facility payroll wages.

<sup>a</sup> Values from Belfield and Schochet (2024).

<sup>b</sup> Value from Belfield and Schochet (2024), adjusted from 2024 dollars to 2025 dollars with an average inflation rate of 2.6 percent.

<sup>c</sup> Compiled by the Urban-Brookings Tax Policy Center, available at <https://state-local-finance-data.taxpolicycenter.org/pages.cfm>.

DC OSSE = DC Office of the State Superintendent of Education; DC HBX = DC Health Benefits Exchange Authority; n.a. = not applicable; PEF = Pay Equity Fund; U.S. BLS = U.S. Bureau of Labor Statistics.

Table A.2. Results of PEF benefit-cost analysis for FY 2023 and FY 2024

\$ Millions	FY 2024 benefit-cost analysis			FY 2023 benefit-cost analysis		
	PEF wage payments	HC4CC insurance	Total	PEF wage supplements	HC4CC insurance	Total
<b>Costs</b>						
PEF implementation	\$67.84	\$8.58	\$76.42	\$44.12	\$10.11	\$54.22
<b>Benefits</b>						
<b>Educators</b>						
Absenteeism savings	\$3.49	\$0.38	\$3.87	\$3.44	\$0.65	\$4.09
Work experience gains	\$0.57	\$0.06	\$0.63	\$0.43	\$0.08	\$0.51
Welfare savings	\$0.37	\$0.05	\$0.42	\$0.38	\$0.04	\$0.42
Health expenditure savings	n.a.	\$2.85	\$2.85	\$0.00	\$2.29	\$2.29
Economic security	n.a.	\$0.89	\$0.89	\$0.00	\$0.76	\$0.76
<b>Facilities</b>						
Recruitment savings	\$10.87	\$1.18	\$12.05	\$10.72	\$2.03	\$12.74
<b>Families</b>						
Increased CCEE access	\$28.09	\$1.84	\$29.93	\$17.22	\$1.67	\$18.89
Improved CCEE quality	\$39.32	\$2.58	\$41.90	\$24.67	\$2.39	\$27.06
<b>Total social benefits</b>						
PEF benefits value	\$82.71	\$9.83	\$92.54	\$56.86	\$9.90	\$66.76
<b>Economic returns</b>						
Net benefits	\$14.87	\$1.26	\$16.12	\$12.74	-\$0.20	\$12.54
Benefit-cost ratio	1.22	1.15	1.21	1.29	0.98	1.23

Note: Results of FY 2023 benefit-cost analysis from Belfield and Schochet (2024).  
 HC4CC = HealthCare4ChildCare; n.a. = not applicable; PEF = Pay Equity Fund.