PRENATAL-TO-3 POLICY CLEARINGHOUSE

EVIDENCE REVIEW

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ER 0920.014A

Child Care Workforce Compensation

Evidence Review Findings: Need Further Study

Increasing child care workforce compensation may support nurturing and responsive child care in safe settings, but evidence is mixed and further research is needed. Only two strong causal studies have examined the impact of child care workforce compensation on relevant outcomes in the prenatal-to-3 period, and both included teachers serving students outside this age group. Additionally, research to date has only examined the impacts of wage supplement programs, and these programs have not been studied at a statewide level; further evidence on other state compensation policies, such as compensation guidelines or relief through tax credits, is needed.

Low wages in the child care field are common, particularly among teachers and caregivers serving infants and toddlers. To address low child care workforce compensation, states may include compensation guidelines or requirements in licensing or quality rating and improvement systems (QRIS), or provide financial relief to the child care workforce through tax credits, bonuses, or stipends. Higher child care workforce compensation may help recruit more highly skilled staff and reduce staff turnover, which can lead to higher overall classroom quality and better teacher-child interactions, resulting in improved child social-emotional and cognitive outcomes.

What Is Child Care Workforce Compensation?

Low wages are common among the child care workforce. In 2017, median hourly wages ranged from $10.35 per hour for self-employed home care providers to $13.94 per hour for preschool teachers (in all settings). Child care workers serving infants and toddlers tend to have lower pay than teachers of children ages 3 to 5 and not yet in kindergarten, and this wage penalty by age of children served persists regardless of workers' levels of educational attainment.[1] Low and/or unpredictable wages[i] and lack of benefits may be a contributing factor to the decline in home-based providers in recent years,[2] and low pay among the child care workforce more generally may contribute to the economic insecurity of these workers.[1]

State policies specifically addressing the compensation of the child care workforce are limited. States can establish compensation standards, whether required or as guidelines, as part of state licensing or participation in quality rating and improvement systems (QRIS),[ii] and states can include salary schedules and benefits as rating components of their QRIS. A state may also increase its minimum wage, which may impact the wages paid to the child care workforce if the new minimum is higher than child care workforce wages in that state.[3,4] Additionally, states may implement financial relief policies intended to augment annual compensation of the child care workforce. Examples of financial relief policies include: (a) stipend programs providing cash awards to teachers based on educational attainment and retention, such as the WAGE$ program;[1,5] (b) refundable tax credits providing wage supplements through the tax system to child care staff (directors and teachers) who work in facilities participating in the state QRIS, with the value of the credit scaled by educational attainment;[1] and (c) one-time bonuses to child care workers, typically offered as educational scholarship funds, bonuses for participating in and completing higher education and training in the child care field (including professional development), or bonuses for retention within a program, such as T.E.A.C.H. Early Childhood scholarships.[1,6] Because staff compensation represents a large portion of the cost of providing child care services, the level of state subsidy reimbursement rates to providers serving low-income families, particularly home-based providers, may also be important in boosting staff compensation.[7]

Who Is Affected by Child Care Workforce Compensation?

The child care workforce includes approximately 535,000 teachers and caregivers in listed (included in state and national administrative lists of ECE providers) center- and home-based settings serving children ages 0 to 3.[8,iii] Low wages may be particularly problematic for Black staff members who disproportionately work with infants and toddlers (among center-based staff) and have lower wages than other groups of child care workers by race/ethnicity.[1] To the extent that the quality of care, and by extension outcomes of children in care, are impacted by child care workforce compensation, millions of children in nonparental care may also be affected by policies targeting compensation of child care workers.

What Are the Funding Options for Child Care Workforce Compensation?

Funding for financial relief policies can come from both public and private sources, including Child Care and Development Fund quality funds, state general funds, state pre-K funds, state funds from tobacco taxes or lotteries, local government funds, foundations, nonprofits, and corporations.[5,6,9] Funding from the federal Preschool Development Grant Birth Through Five program may also be used by states to assess and address child care workforce compensation issues.[10]

Why Should Child Care Workforce Compensation Be Expected to Impact the Prenatal-to-3 Period?

Child care quality is typically defined by elements of both the structure of child care programs themselves and the experiences of the children within the programs. Workforce compensation is considered to be one important element of

[i] Self-employed home care provider wages are from the March 2012-2017 Current Population Survey Annual Social and Economic Supplement. Preschool teacher wages are from the Occupational Employment Statistics (Bureau of Labor Statistics).
[ii] For example, setting a wage floor/minimum compensation standard or identifying living wages, by education level and/or staff position
[iii] Author's calculation based on those serving children ages 0 to 3 only and those serving children ages 0 to 5 in center-based and listed home-based settings. Due to the way data are presented, this number includes a small share of unpaid, listed home-based teachers and caregivers (2,900 of 117,900 total listed home-based teachers and caregivers serving children 0 to 5). Does not include paid or unpaid unlisted home-based providers.

the structure of child care programs – one of a collection of "necessary inputs that enable programs and caregivers to offer children the safe, sensitive, and appropriate caregiving that characterizes high-quality classroom environments" (p. 476),[11,12] which promotes healthy early brain development.[13] The rationale behind compensation policies targeting the child care workforce is generally to promote recruitment of staff with higher education and qualification levels and improve retention within child care programs and the broader child care field.[14]

Higher child care workforce wages and benefits may help recruit better staff (e.g., teachers with a bachelor's degree or specialized training in early childhood education and/or development), which may in turn improve classroom quality and teacher-child interactions.[15,iv] In addition, higher teacher compensation may reduce teacher turnover, in part due to increased teacher job satisfaction and wellbeing.[16,17,18] Increased stability in the teaching staff of child care providers is linked to the quality of care a child receives, including a child's ability to form a stable connection with his or her caregivers.[20,15] Better teacher-child interactions and classroom quality may lead to improved child cognitive and social-emotional outcomes.[14,15]

Workforce compensation policies may also help to reduce disparities in workforce and child outcomes, if policies can (a) raise the wages of assistants and staff working with infants and toddlers, who are more likely to be Black,[1] and (b) raise the wages in child care programs serving low-income or other at-risk children.

Decades of research in the field of child development have made clear the conditions necessary for young children and their families to thrive.[19] These conditions are represented by our eight policy goals, shown in Table 1. The goals with which child care workforce compensation are theoretically aligned are indicated below.

Table 1: Policy Goals Theoretically Aligned With Child Care Workforce Compensation

Aligned	Policy Goal
	Access to Needed Services
	Parents' Ability to Work
	Sufficient Household Resources
	Healthy and Equitable Births
	Parental Health and Emotional Wellbeing
	Nurturing and Responsive Child-Parent Relationships
●	Nurturing and Responsive Child Care in Safe Settings
●	Optimal Child Health and Development

What Impact Does Child Care Workforce Compensation Have, and for Whom?

Very limited rigorous research has evaluated the impact of child care workforce compensation on outcomes in the prenatal-to-3 period. The majority of the evidence base for child care compensation comes from observational studies, which should be considered carefully, as they employ study designs that are not sufficient to draw causal conclusions and often feature small sample sizes. The review below summarizes the existing knowledge from the literature, beginning with what the limited causal evidence tells us about the impact of child care workforce compensation and then

[iv] Positive teacher-child interactions are typically measured by observed interactions demonstrating warmth, sensitivity, and responsiveness, among other factors. Classroom quality is typically defined by observed classroom experiences and includes teacher behaviors, positive climates, and facilitation of learning and development.

summarizing outcomes from the observational studies. Further research is needed to draw a causal link between workforce compensation in the child care sector and relevant outcomes in the prenatal-to-3 period.

The research discussed here meets our standards of evidence for being methodologically strong and allowing for causal inference, unless otherwise noted. Each strong causal study reviewed has been assigned a letter, and a complete list of causal studies can be found at the end of this review, along with more details about our standards of evidence and review method. The findings from each strong causal study reviewed align with one of our eight policy goals from Table 1. The Evidence of Effectiveness table below displays the findings associated with child care workforce compensation (beneficial, null,[v] or detrimental) for each of the strong studies (A and B) in the causal studies reference list, as well as our conclusions about the overall impact on each studied policy goal. The assessment of the overall impact for each studied policy goal weighs the timing of publication and relative strength of each study, as well as the size and direction of all measured indicators.

Table 2: Evidence of Effectiveness for Child Care Workforce Compensation by Policy Goal

Policy Goal	Indicator	Beneficial Impacts	Null Impacts	Detrimental Impacts	Overall Impact on Goal
Nurturing and Responsive Child Care in Safe Settings	Teaching Staff Retention	B	A		Mixed

Nurturing and Responsive Child Care in Safe Settings

Two strong causal studies have examined the impact of compensation for child care workers on child care outcomes, and the findings were mixed. One study evaluated the impact of center-based child care teacher wages on turnover rates and found no significant effect.[A] Another study, which focused on the effects of QRIS on families and children, also examined the impact of wage compensation programs, in comparison to and conjunction with QRIS. The study compared states that had implemented QRIS only, QRIS and a wage supplement program, and a wage supplement program alone, to states that had neither program.[B] Results showed that states with a wage supplement program alone had lower job separation and turnover rates compared to states with neither a wage supplement or QRIS in place. States with both QRIS and wage supplement programs had improved turnover rates but showed no significant impact on job separation rates when compared to states with neither program. This study also found that wage supplement programs can augment the impact of QRIS implementation on child care workforce outcomes within the state, with outcomes for states that had both policies in place significantly stronger than outcomes in states that had implemented QRIS alone.

The bulk of the current evidence base for the link between child care workforce compensation and staff retention lacks the ability to establish causal connections. The majority of often-cited observational studies on child care workforce compensation generally found either a positive link between higher wages and greater retention and workers' intention to stay in their jobs[21,16,15,17] or null effects.[21,22,23] However, the findings of these studies should be interpreted with caution, as they are limited by their study designs and sample sizes. Although researchers suggest that compensation is important to the recruitment of a skilled child care workforce, current research does not explore these connections.[17,15] No strong causal studies have explored the pathway from compensation to retention through job satisfaction; often-cited observational studies have suggested a positive link between wages and job satisfaction but are limited by the same methodological challenges described above.[20,16,18]

Limited research has explored the impacts of specific compensation-related policy levers. Existing observational evidence[14,24] has suggested mixed associations between compensation and retention incentive program participation,[vi]

[v] An impact is considered statistically significant if $p<0.05$.

[vi] Compensation and retention incentive programs are wage supplement/stipend programs providing semi-annual cash payments to workers. Payment amounts vary based on workers' qualifications (e.g., educational attainment), typically require staff to remain employed in a position or in the child care field (intended to reduce turnover), and may include additional requirements (e.g., related to

and outcomes for retention were limited in geographic scope to findings from two states. In a quasi-experimental study in Missouri, participation in the retention incentive program (and receipt of a biannual cash incentive) was associated with lower teaching staff turnover rates generally, but subgroup analyses found mixed results.[A]

The evidence for the association between compensation and child care quality[vii] comes primarily from observational, point-in-time studies, frequently limited by small sample sizes. No evidence exists on the causal effects of child care wages on quality,[25] and the mechanisms by which pay affects quality remain unclear. Often-cited observational research has suggested that higher teacher compensation is associated with higher ratings on measures of classroom quality,[viii] and this association is generally, but not always, true for infant and toddler classrooms specifically.[11,12,23] The observational evidence linking wages to teacher behavior[ix] beyond broad quality measures is mixed; two studies found a positive association,[26,12] and one study found no significant association.[23] However, the link between compensation and quality is, at best, complex and indirect,[27] and the current evidence base lacks the rigor necessary to establish causal connections.

Is There Evidence That Child Care Workforce Compensation Reduces Disparities?[x]

No strong causal research explores the impact of child care workforce compensation on reducing disparities, or disparate outcomes for children or for the child care workforce.

Has the Return on Investment for Child Care Workforce Compensation Been Studied?

No strong causal evaluations have examined the return on investment for increased child care workforce compensation, but some observation studies suggest this may be a cost-effective strategy. For example, observational studies that examine the relationship between child care worker wages and turnover suggested that investment in increased wages may increase retention, which can result in savings in the long run.[1,17,23] A more comprehensive analysis of the return on investment is forthcoming.

What Do We Know, and What Do We Not Know?

Overall, the evidence base on child care workforce compensation is unable to make a causal connection between compensation and child outcomes via staff retention and child care quality. Currently, insufficient evidence exists to reach conclusions on specific state policy levers or on the potential for higher child care workforce compensation to impact child wellbeing and development.

The evidence on state child care workforce compensation policies has several limitations that can be addressed by future research. First, existing research is subject to methodological challenges related to study designs or analytic methods; experimental or quasi-experimental research can help clarify causal links between child care workforce compensation and outcomes of interest.

Second, strong causal research disaggregating infant and toddler teachers and classrooms from preschool teachers and classrooms is needed to improve the evidence base specifically for the prenatal-to-3 population. Though research on the

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ongoing professional development). Payments are higher for workers with higher levels of educational attainment, which is intended to incentivize higher education.

[vii] Child care quality is typically defined as the quality of what happens inside the child care classroom or program, generally focused on positive, nurturing interactions between teachers and children; activities children are engaged in (e.g., curriculum, activities to promote social and academic learning); and a safe, enriching physical classroom environment.

[viii] Classroom quality is operationalized using an observed measure of quality, most frequently overall scores on the Infant/Toddler Environment Rating Scale (ITERS) or the Early Childhood Environment Rating Scale (ECERS) or their relevant subscales (e.g., developmentally appropriate activities).

[ix] Teacher behavior is typically operationalized using measures of the quality of a teacher's interaction with children, such as measures of restrictive, responsive, and sensitive caregiving behaviors. Instruments used to measure these behaviors typically include the Arnett Caregiver Interaction Scale and Teacher Involvement Scale.

[x] Disparities are defined here as differential outcomes by race, ethnicity, or socioeconomic status (SES).

child care field more generally can be useful to understand the impact of child care workforce compensation on children under the age of 3, the unique challenges and needs of infant and toddler classrooms mean that broader outcomes may not be directly relevant. Building the evidence base on this population specifically will help allow for stronger conclusions.

Third, limited research examines the effects of specific state-level child care workforce compensation policies. A closer examination of existing state policies, including child care specific compensation programs and broader minimum wage policies, will allow for a better understanding of the effectiveness of various approaches for addressing low child care workforce compensation, guiding states on what the optimal policy approach is to improving compensation for the child care workforce. Observational evidence estimating the effect of Seattle's $15 minimum wage (to be fully phased in by 2021) among child care providers concluded that the majority of providers, who typically pay employees less than $15 hourly, would be significantly impacted by the minimum wage increase.[34] Qualitative survey data from the same study suggested providers may increase the price of child care services or reduce hours or employees in response to the wage increase. Further study is needed to understand the effect of minimum wage increases on the child care field specifically, especially for providers that may have limited resources.

Finally, the extant research (causal or otherwise) does not explore direct or indirect pathways (e.g., via child care quality) from compensation to child outcomes. Further research should directly assess the effect of child care compensation on child outcomes.

Is Child Care Workforce Compensation an Effective Policy for Improving Prenatal-to-3 Outcomes?

Existing evidence is too limited to draw a conclusion on the effectiveness of workforce compensation as a strategy to improve outcomes in the prenatal-to-3 period. To date, no studies have examined the impact of workforce compensation policies for the prenatal-to-3 age group specifically – both strong causal studies reviewed here included teachers of other age groups.[A,B] Further, strong causal evidence on the impact of child care workforce compensation, even inclusive of older children, is limited and mixed. Though observational studies suggest that higher compensation for child care workers may improve recruitment and retention, which in turn may improve classroom quality and child outcomes, more research is needed to draw a strong conclusion. Additionally, research to date has only examined the impacts of wage supplement programs, and these programs have not been studied at a statewide level; further evidence on other state compensation policies, such as compensation guidelines or relief through tax credits, is needed.

How Does Child Care Workforce Compensation Vary Across the States?

As of 2018, only Vermont and the District of Columbia have compensation guidelines for the child care workforce outside of public pre-K, and no states have required compensation standards; however, 12 additional states have plans to establish guidelines in the future (see Table 3 below for details).[1] Only 15 states[xi] include salary scales and/or benefit options as a rating component in their QRIS for center-based providers, and no states include these scales in their QRIS for family child care providers.[1]

Child care workforce compensation has received some attention in federal programs, providing funding to states and localities through program guidelines or funding evaluation criteria, but usually with limited specificity. For example, the Preschool Development Grants in 2014 included pay parity with K-12 instructional salaries as a component defining high-quality care, but the newer Preschool Development Grants Birth Through Five do not specifically mention compensation;[28,29] the Race to the Top-Early Learning Challenge included compensation as an example of a policy states may address in their proposals to support the child care workforce to improve education and skills;[30] and compensation is not mentioned within Head Start Performance Standards that apply to Early Head Start.[31]

[xi] State counts include the District of Columbia

To the extent that states have policies addressing child care compensation issues, policies almost always focus on providing financial relief.[1] As of 2018, only 12 states had state-wide stipend programs,[1,xii] and only Louisiana and Nebraska had refundable tax credits.[1] The amount awarded for both stipends and tax credits varies by state but is generally limited: In 2018, "the median minimum *annual* award across existing stipends and tax credits [was] $400, and the median maximum [was] only $2,545 (less than $50 per week)" (p. 99).[1] As of 2018, 33 states offered bonus programs statewide, often either T.E.A.C.H. programs or programs linking awards to education and training.[1] State and local increases to the minimum wage may also increase child care workforce compensation, but only to the extent that increases are higher than typical child care workforce wages.[32,34]

Over the past several years, a national collaborative led by child care professionals developed a unifying framework to provide recommendations to the child care field on how to define the early childhood education profession. The final result of the Power to the Profession collaboration was a set of recommendations, which focused on unified pathways, preparation, responsibilities, and competencies for child care professionals and included as a recommendation improved professional compensation for early childhood educators.[33] That document, endorsed by 15 national organizations in the field, represents momentum toward increased compensation among the child care workforce across the country.

Table 3: State Variation in Child Care Workforce Compensation

	Variation				
State	State Has Established Guidelines or a Plan for Recommended Early Educator Payment/Benefit Guidelines	State Has a Policy to Provide a Tax Credit or Stipend to Supplement Early Educator Pay	State Has a Policy Providing a Bonus to Supplement Early Educator Pay	State Does NOT Have a Strategy to Increase Compensation for Early Educators	State Funds a Scholarship Program That Supports Higher Education Attainment for Early Educators
Alabama	No	No	Yes	No	Yes
Alaska	No	No	No	Yes	Yes
Arizona	No	No	Yes	No	Yes
Arkansas	No	No	No	Yes	No
California	No	No	No	Yes	Yes
Colorado	Yes	Yes	Yes	No	Yes
Connecticut	No	No	Yes	No	Yes
Delaware	Yes	Yes	Yes	No	Yes
District of Columbia	Yes	Yes	Yes	No	Yes
Florida	No	No	Yes	No	Yes
Georgia	No	No	Yes	No	Yes
Hawaii	No	No	No	Yes	Yes
Idaho	No	No	Yes	No	Yes
Illinois	No	No	No	No	Yes
Indiana	Yes	Yes	Yes	No	Yes
Iowa	No	No	Yes	No	Yes
Kansas	No	No	Yes	No	Yes
Kentucky	No	No	Yes	No	Yes
Louisiana	No	No	No	No	Yes
Maine	No	No	No	Yes	No

[xii] Note, other states had state programs that may allow stipends statewide, but local or regional authorities have the ability to decide whether or not local programs include stipends. One example of a state-wide initiative with local autonomy is California's AB212 Child Care Retention Program.

Table 3: State Variation in Child Care Workforce Compensation (continued)

	Variation				
State	State Has Established Guidelines or a Plan for Recommended Early Educator Payment/Benefit Guidelines	State Has a Policy to Provide a Tax Credit or Stipend to Supplement Early Educator Pay	State Has a Policy Providing a Bonus to Supplement Early Educator Pay	State Does NOT Have a Strategy to Increase Compensation for Early Educators	State Funds a Scholarship Program That Supports Higher Education Attainment for Early Educators
Maryland	No	No	No	No	Yes
Massachusetts	No	No	No	Yes	Yes
Michigan	No	No	Yes	No	Yes
Minnesota	Yes	Yes	Yes	No	Yes
Mississippi	No	No	No	Yes	No
Missouri	No	No	Yes	No	Yes
Montana	Yes	Yes	Yes	No	No
Nebraska	Yes	Yes	Yes	No	Yes
Nevada	No	No	Yes	No	Yes
New Hampshire	Yes	Yes	No	Yes	No
New Jersey	No	No	Yes	No	Yes
New Mexico	No	No	Yes	No	Yes
New York	Yes	Yes	No	Yes	Yes
North Carolina	Yes	Yes	Yes	No	Yes
North Dakota	No	No	No	Yes	Yes
Ohio	No	No	Yes	No	Yes
Oklahoma	No	No	No	Yes	Yes
Oregon	Yes	Yes	Yes	No	No
Pennsylvania	Yes	Yes	Yes	No	Yes
Rhode Island	No	No	Yes	No	Yes
South Carolina	No	No	Yes	No	Yes
South Dakota	No	No	No	Yes	No
Tennessee	No	No	No	Yes	Yes
Texas	No	No	Yes	No	Yes
Utah	No	No	Yes	No	Yes
Vermont	Yes	Yes	Yes	No	Yes
Virginia	No	No	No	Yes	Yes
Washington	Yes	Yes	Yes	No	Yes
West Virginia	No	No	Yes	No	Yes
Wisconsin	No	No	Yes	No	Yes
Wyoming	No	No	No	Yes	Yes
State Count	14	14	33	15	44

Data as of 2018. Whitebook, et al. Early Childhood Workforce Index - 2018.

For additional source and calculation information, please refer to the Methods and Sources section of pn3policy.org.

How Did We Reach Our Conclusions?

Method of Review

This evidence review began with a broad search of all literature related to the policy and its impacts on child and family wellbeing during the prenatal-to-3 period. First, we identified and collected relevant peer-reviewed academic studies as well as research briefs, government reports, and working papers, using predefined search parameters, keywords, and trusted search engines. From this large body of work, we then singled out for more careful review those studies that endeavored to identify causal links between the policy and our outcomes of interest, taking into consideration characteristics such as the research designs put in place, the analytic methods used, and the relevance of the populations and outcomes studied. We then subjected this literature to an in-depth critique and chose only the most methodologically rigorous research to inform our conclusions about policy effectiveness. All studies considered to date for this review were released on or before March 31, 2020.

Standards of Strong Causal Evidence

When conducting a policy review, we consider only the strongest studies to be part of the evidence base for accurately assessing policy effectiveness. A strong study has a sufficiently large, representative sample, has been subjected to methodologically rigorous analyses, and has a well-executed research design allowing for causal inference – in other words, it demonstrates that changes in the outcome of interest were likely caused by the policy being studied.

The study design considered most reliable for establishing causality is a randomized control trial (RCT), an approach in which an intervention is applied to a randomly assigned subset of people. This approach is rare in policy evaluation because policies typically affect entire populations; application of a policy only to a subset of people is ethically and logistically prohibitive under most circumstances. However, when available, randomized control trials are an integral part of a policy's evidence base and an invaluable resource for understanding policy effectiveness.

The strongest designs typically used for studying policy impacts are quasi-experimental designs (QEDs) and longitudinal studies with adequate controls for internal validity (for example, using statistical methods to ensure that the policy, rather than some other variable, is the most likely cause of any changes in the outcomes of interest). Our conclusions are informed largely by these types of studies, which employ sophisticated techniques to identify causal relationships between policies and outcomes. Rigorous meta-analyses with sufficient numbers of studies, when available, also inform our conclusions.

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Evidence Review Citation:
Prenatal-to-3 Policy Impact Center. (2020). *Prenatal-to-3 policy clearinghouse evidence review: Child care workforce compensation* (ER 0920.014A). Child and Family Research Partnership. Lyndon B. Johnson School of Public Affairs, University of Texas at Austin.
http://pn3policy.org/policy-clearinghouse/child-care-workforce-compensation