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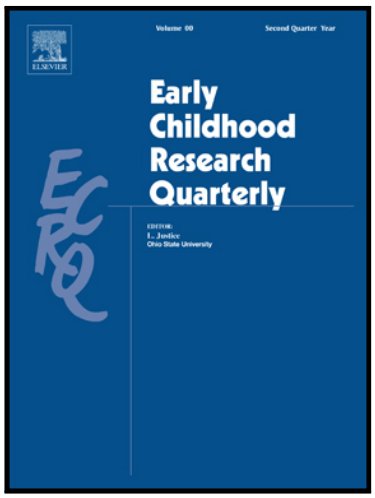

Impacts of COVID-19 on the Early Care and Education Sector in California: Variations Across Program Types

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Highlights

- Impact of COVID-19 on ECE programs differed greatly by program type, funding source
- Family child care homes fared worse in most measures of economic well-being with direct implications for individual providers during COVID-19
- Lower attendance, staffing concerns were pandemic challenges for center-based care
- Voucher-receiving centers more likely to face negative impacts during COVID-19
- Head Start/state-contract centers more able to support staff well-being in pandemic

Impacts of COVID-19 on the Early Care and Education Sector in California: Variations Across Program Types

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Abstract

The COVID-19 crisis has overwhelmed and weakened the United States early care and education (ECE) sector, jeopardizing a system that was already precariously situated atop a weak foundation. While multiple national- and state-level studies have highlighted the overwhelming impacts of the pandemic on the ECE sector, little has been reported about how much variation in impacts exists, and in what forms, within the ECE sector. Based on a statewide survey of 953 licensed care providers in California conducted in June 2020, this paper examines the impact of COVID-19 experienced by ECE providers, focusing on the variations between centers and family child care homes (FCCs) and among center-based programs. Results indicate that the challenges programs face differ greatly depending on program type and funding source. Compared to center-based programs, FCCs fared worse in most measures of economic hardship that directly impact individual providers with medium to large effect sizes. Centers were more likely than FCCs to struggle with reduced attendance and changes in program operations by medium to large effect sizes and report staffing challenges by small to medium effect sizes. Among the center-based programs, subsidized programs holding contracts with Head Start or the California Department of Education (such as state preschool programs) were more stable and better able to financially support their staff during the pandemic, with effect sizes ranging from medium to large. Centers receiving government subsidies in the form of vouchers were more likely to be negatively impacted by the pandemic compared to unsubsidized centers and Head Start and state-contracted centers. Implications for future research and policy are discussed in the context of addressing the complex delivery system of ECE services and supporting outcomes that are effective and equitable for children, families, and the ECE workforce.

Keywords: COVID-19; Early Childhood Education; Impact Variation; Center-Based Care; Family Child Care; Public Funding; Contracts; Vouchers

Introduction

The COVID-19 crisis has overwhelmed and weakened the United States early care and education (ECE) sector, jeopardizing a system that was already precariously situated atop a weak foundation (National Association for the Education of Young Children, 2020a, 2020d). Razor-thin operating margins, poverty-level wages, lack of resources, and inadequate public funding have long constituted the status quo for the ECE sector (Gould et al., 2019; Gould & Blair, 2020; McLean et al., 2021; Whitebook et al., 2018). The pandemic may have exacerbated those conditions and highlighted endemic structural deficiencies in the system as a whole. The findings from a national survey of child care providers in June 2020 accentuated the economic and operational challenges facing programs, suggesting that nearly 40% of programs might permanently close in the absence of significant public investment (National Association for the Education of Young Children, 2020c). Numerous state-level studies have also underscored the grave effects of the pandemic on the ECE sector, ranging from financial viability—decreased enrollment, financial losses, and increased costs (Daro & Gallagher, 2020; Sonnier et al., 2020)—to educator concerns about health, safety, and mental well-being (Daro & Gallagher, 2020; Iowa Child Care Resource & Referral, 2020; Oregon Department of Education: Early Learning Division, 2020; Parr et al., 2020).

The entire ECE sector has been affected by the pandemic, yet the impacts may not have not been borne equally by all programs, given the varied degrees of support, primarily targeting publicly funded programs for financial assistance and pandemic guidelines in California as well as in many other states (Hunt Institute, 2020; McHenry & Smith, 2020), and the pre-existing disparities in the system (Austin et al., 2019; Deery-Schmitt & Todd, 1995; Gerstenblatt et al., 2014; Giapponi Schneider et al., 2021; Institute of Medicine and National Research Council, 2015; National Center on Child Care Subsidy Innovation and Accountability and the State Capacity Building Center, 2016; National Survey of Early Care

and Education Project Team, 2014). Nonetheless, little has been reported to date about how much variation in impacts exists—and in what forms—across different programs.

Based on a statewide survey of licensed care providers in California, this paper explores the impact of COVID-19 experienced by ECE providers, focusing on understanding the variations across different program settings. By comparing the differences in impacts *between* centers and family child care providers (FCCs) and *among* center-based programs, the study seeks to identify areas to prioritize resources and supports during the pandemic and also to provide insights into preexisting structural and systemic problems underlying the ECE sector.

COVID-19 and the Early Care and Education Sector

Multiple national- and state-level studies have highlighted the severe impacts of the pandemic on the ECE sector, ranging from financial viability of the programs to concerns about health, safety, and mental well-being of educators (Daro & Gallagher, 2020; Iowa Child Care Resource & Referral, 2020; National Association for the Education of Young Children, 2020c, 2020d; Oregon Department of Education: Early Learning Division, 2020). Initial survey results from California in June 2020 echoed these findings (Doocy et al., 2020; Kim et al., 2020). Programs that continued to operate during the pandemic faced decreased enrollment, reduced income, and higher costs. Eighty percent of programs that remained open experienced higher costs due to cleaning/sanitation supplies and personal protective equipment (PPE), and access to such essential supplies proved an ongoing challenge. Individuals, namely FCC providers and center directors, assumed the burden of increased financial risk; 25% of all survey respondents took on personal credit card debt and 21% skipped rent or mortgage payments in order to keep their programs afloat. On top of those financial challenges, California child care providers faced serious health risks in operating

during the pandemic, with 38% of providers worried that they would be exposed to COVID-19 by the children or families they served. State data on COVID-19 cases underline the scale of these health risks: the California Department of Social Services (CDSS) reported that child care workers represented about 40% of the 13,697 total cumulative positive COVID-19 cases in child care facilities among staff, children, and parents as of July 2021 (Community Care Licensing, 2020).

Despite the clear need for financial assistance to sustain both public and private ECE programs and individual members of the workforce, initial federal relief funding in the spring of 2020 for the ECE sector was inadequate, and programs and early educators were struggling to survive (National Association for the Education of Young Children, 2020b). An analysis from the Center for American Progress in April 2020 estimated that without adequate federal funding the United States could permanently lose nearly one-half of all child care slots serving nearly 4.5 million children (Jessen-Howard & Workman, 2020). The Coronavirus Aid, Relief, and Economic Recovery (CARES) Act, signed into law in March 2020, appropriated $3.5 billion in supplemental Child Care Development Block Grant (CCDBG) funds and is most relevant to our study, which was conducted in June 2020. The CARES Act provided state agencies with funds to respond to COVID-19 and allowed for flexibility to provide child care assistance. In California, CARES funding was primarily used to support programs that received state funding, as we will detail in a later section. While this support provided stability for subsidized programs, there is evidence that many of the supported programs still struggled with a combination of financial and operational challenges and unsubsidized programs experienced even greater economic hardship, having to pull from their reserves or rely on private donation or fundraising (Author, 2021; Bergey et al., 2020; Curacubby, 2020; Stavely, 2020; Trageser, 2020). In December 2020 and March 2021, outside the time period of our study, more funds were made available via the Coronavirus

Response and Relief Supplemental Appropriations Act (CRRSA) and American Rescue Plan Act (ARPA). We discuss the implications of additional government relief funds in greater detail in the Discussion section.

In studies examining the impact of COVID-19 on early care and education, there has been a tendency to flatten the ECE sector into a roughly homogenous whole, without focusing on variation within the sector (e.g., Community Change Action, 2020; Delap et al., 2020; Louisiana Policy Institute for Children, 2020; National Association for the Education of Young Children, 2020b, 2020c; Strategies for Children, 2020). For example, national reports by the National Association for the Education of Young Children, which provided timely information on the large financial impacts of the pandemic on the ECE sector as well as struggles faced by the workforce, combined responses from both center-based and home-based providers. The National Association for Family Child Care released results from a nationwide survey of family child care providers in August 2020 (National Association for Family Child Care, 2020), which offers a more detailed examination of the challenges facing that population but does not include centers, making it difficult to compare based on program type. Given the vastness of the ECE field and the diversity of programs (both nationally and within California, specifically), it is important to analyze variation in impact by program type, funding type, and provider characteristics in order to appropriately prioritize resources and support in policy responses to the pandemic and the long process of stabilization and recovery ahead.

Different Program Types in Early Care and Education

About 1.2 million children age birth through five years in California are cared for in one or more nonparental arrangements, including various types of center-based programs and family child care homes (Stipek, 2018). According to the most recent administrative data

from 2019, about 9,500 licensed child care centers and nearly 25,000 family child care homes were operating in 2019,[1] which served about 572,996 and 269,783 children, respectively (California Child Care Resource & Referral Network, 2019a).[2, 3]

In California, child care is operated through a mixed-delivery and market-based system that includes center- and home-based care, subsidized programs, and community settings financed through varying proportions of family fees and public subsidies in the form of vouchers. There are two major ways that state and federal dollars are distributed to the California ECE field: contracts and vouchers. Vouchers are provided to families meeting income and other eligibility criteria to subsidize the cost of care for their children. Contracts are distributed to designated programs that meet specific operational and regulatory criteria to fund permanent slots for families meeting income and other eligibility criteria. Among centers, about 30% held contracts with Head Start or the California Department of Education (California Child Care Resource & Referral Network, 2019b). According to the most recent statewide estimates, about 41% of centers were without Head Start or California Department of Education contracts but received public funding through vouchers, and about 30% were unsubsidized, operating mainly based on family fees (Whitebook, Sakai, Kipnis, Lee, Bellm, Almaraz, et al., 2006). Although precise enrollment data on licensed and publicly funded programs are not available, about 10% of children age birth through five years were estimated to have been enrolled in Head Start or state preschool programs in 2016 (Stipek, 2018).

[1] We used two sources of data to derive the program counts. California Child Care & Referral Network shared unpublished child care supply data for centers and large FCCs (California Child Care Resource & Referral Network, 2019b), and the California Department of Social Services provided confidential data on small FCCs (California Department of Social Services, 2019).

[2] Note that the enrollment capacity for FCCs may include school-age children as the data source did not allow for disaggregating the enrollment by children's age.

[3] Note that children cared for in licensed-exempt programs are not counted here. To date, there is no comprehensive list of exempt providers available at the state level.

Family child care providers and center directors face different requirements, funding streams, and organizational contexts, including the characteristics of the workforce and work environment. Family child care providers provide nonparental care in their own homes, often caring for children across a range of ages in mixed-age settings. Child care centers are usually located in commercial buildings, schools, or churches and are larger in size and serve more children than family child care homes. Compared to center-based providers, FCC providers tend to have less access to resources and support (Mimura et al., 2019; Tonyan et al., 2017). Inadequate income is one of the most stressful factors identified by FCC providers (Deery-Schmitt & Todd, 1995). Additionally, these providers have little-to-no access to benefits and work long hours (Deery-Schmitt & Todd, 1995; Gerstenblatt et al., 2014; Morrissey, 2007), conditions that contribute to the overall precarity of these small family businesses. Compared to center-based directors who typically work with their staff and other adults in their programs, FCC providers are more likely to work in isolation with little professional support from other adults (Gerstenblatt et al., 2014; Porter et al., 2010) and report they do not have enough training or professional development opportunities (Hamm et al., 2005).

Studies have also examined differences in work environment and financial stability among center-based settings, comparing Head Start and state-contracted programs, centers that receive vouchers, and other ECE centers that operate without public funding. Centers that operate with contracts, such as Head Start and state-contracted programs, tend to have stable, predictable, and timely funding, as they are paid to serve a certain number of children for a prearranged period of time (Adams et al., 2021; National Center on Child Care Subsidy Innovation and Accountability and the State Capacity Building Center, 2016). Directors of Head Start and state-contracted programs must meet multiple standards and regulations and complete large amounts of paperwork to maintain their contracts, and these requirements were reported as some of the main challenges these providers face (Halle et al., 2019).

Programs that accept vouchers typically serve a mix of private-pay and voucher families. Past studies have reported that reliance on vouchers often creates more risk for providers because the per-child amount of vouchers is insufficient, vouchers pay for a particular child's fees rather than fund permanent slots, and programs typically receive vouchers from only a portion of the children they serve (Adams, et al., 2008; Giapponi Schneider et al., 2021; Schumacher, 2020).

Not surprisingly, centers receiving vouchers are generally more under-resourced than their counterparts in programs with Head Start or state contracts or even in programs without any public funding (Austin et al., 2018; Johnson et al., 2020; National Survey of Early Care and Education Project Team, 2014; Whitebook, Sakai, Kipnis, Lee, Bellm, Almaraz, et al., 2006). According to the most recent California statewide workforce study, teachers in Head Start or state-contracted centers earned the highest wage on average, followed by programs without public funding and voucher programs (Whitebook, Sakai, Kipnis, Lee, Bellm, Almaraz, et al., 2006). The study also showed that centers receiving vouchers reported the highest rates of teacher turnover compared to other programs (Whitebook, Sakai, Kipnis, Lee, Bellm, Almaraz, et al., 2006).

These different organizational contexts have consequences for financial and workforce stability and for the work environment, which are foundational for quality early care and education (Phillips et al., 2000; Phillipsen et al., 1997; Whitebook et al., 2014; Whitebook & Sakai, 2003). These underlying differences across program types are especially important in the context of the pandemic, particularly in light of growing concerns about the stability and sustainability of the ECE sector and the workforce that it employs.

COVID-19 and Differences in Experience Across Program Types

While COVID-19 has created significant challenges for all programs in the ECE field, the financial support and guidance that programs received varied greatly depending on program type and funding source. As the pandemic hit the United States, businesses and schools shut down, but some or all child care programs stayed open in every state but Rhode Island (Grimm, 2020). In California, where child care programs were not directed to close with few exceptions (Grimm, 2020), the state issued new temporary regulations on staff-to-child ratios, group size, and maintaining stable cohort groups. The group size for both centers and FCCs was reduced to a maximum of 10 children (California Department of Social Services, 2020a). Pre-pandemic regulations for centers allowed a group size of up to 12 for toddlers and up to 18 for preschoolers (California Department of Social Services, n.d.a), and for large FCCs, a group size of up to 14 children was permitted (California Department of Social Services, n.d.b). The staff-to-child ratio for preschoolers in centers was lowered to 1:10 (California Department of Social Services, 2020a), down from 1:12 (California Department of Social Services, n.d.a). The guidance also limited the movement of teaching staff between groups (California Department of Social Services, 2020c). These changes to ratios, group sizes, staffing patterns, and physical distancing resulted in financial, operational, and programmatic challenges for programs.

Guidelines and regulations regarding facility closures and funding were more limited. In California, such guidance was issued only for programs receiving public funding; the decision to close or remain open for other programs was left to the licensees' discretion (California Department of Social Services, 2020b). Federal relief funding was also mainly targeted towards subsidized programs (contracted programs and programs receiving vouchers). CARES funding in California was primarily used to provide emergency child care services through the subsidy system, fund subsidized programs regardless of attendance, and provide one-time per-child stipends to subsidized programs to cover reopening expenses and

increased costs due to COVID-19. The state also allocated $50 million for cleaning and safety supplies; all open (or reopening) programs were eligible to apply for this funding, regardless of funding status (California Department of Education, 2020a).

At the federal level, the vast majority of Head Start programs physically closed in response to COVID-19 (Head Start ECLKC, 2020a) but were authorized and funded to continue to pay wages and benefits to all staff during center closures through September 2020 (Head Start ECLKC, 2020b). From October onward, Head Start programs were funded to pay staff when centers were physically closed, as long as staff were still working in a different capacity, such as providing remote learning (Head Start ECLKC, 2020b).

At the state level, many California ECE state contractors, such as the California State Preschool Program (CSPP), closed programs in response to health orders and were financially supported during periods of physical closure through June 2020, as long as they continued program operations, such as program quality activities (e.g., professional development) and continued to pay operating expenses (e.g., wages, benefits, other overhead costs) (California Department of Education, 2020b). From July 2020 to June 2021, state contractors continued to be fully reimbursed if they opened by September 8, 2020, or if they offered remote learning services if physically closed by public health order (Child Care and Development Services Act, 2020). In addition, centers and FCCs that received child care vouchers through the Alternative Payment subsidy program were paid based on child enrollment rather than attendance through June 30, 2021 (California Department of Education, 2020c, 2020d, 2020e). This change enabled these programs to maintain some portion of their income that comes from children with subsidies, regardless of whether the children were attending.

In contrast, the ECE programs in California that do not receive public funding have faced a much different situation. These centers and FCCs had to independently decide whether to physically close their programs, how to fund their programs, if (and/or how) they could pay staff during closures, and whether (and/or how) to collect family fees if they physically closed or provided remote learning (California Department of Social Services, 2020b). They were not guaranteed any income. Although some funding was made available for PPE (California Department of Education, 2020a), these programs were on their own to pay for the increased costs needed to meet new safety guidelines. They received no support to meet new regulations limiting group sizes and requiring more staff or when families decided to keep their children home. Without public financial support, their options were limited: they could apply for limited federal stimulus money in the form of the Paycheck Protection Program, rely on savings, go into debt, or close. Additionally, California policy has continued to primarily direct financial assistance towards programs already receiving public funding as of preparation of this article (early 2022), suggesting that many of the challenges programs were experiencing at the onset of the pandemic were ongoing.[4] The varying levels of pandemic support and guidance, mainly targeted toward publicly funded programs, may likely have exacerbated the long-standing inequities in the ECE system, unequally affecting programs' abilities to operate, remain financially viable, protect the health of staff, and sustain their programs during the pandemic and beyond.

Despite the importance of understanding what this variation means for short-term program stability and recovery, long-term sustainability, and the well-being of the individual members of the ECE workforce and the children and families they serve, there is scant

[4] In June 2021, the state passed a bill to allocate one-time stipends of $3,500 - $6,500 to all licensed child care programs regardless of funding source. Through this legislation, another round of one-time stipends was also allocated to subsidized programs, in the amount of $1,125 per child, further widening the gap in assistance between subsidized and unsubsidized programs (A.B. 131, 2021).

research on this topic, as noted above. State- and national-level studies on the impact of COVID-19 on ECE programs have rarely differentiated by program type/funding source (e.g., Community Change Action, 2020; National Association for the Education of Young Children, 2020c; National Women's Law Center, 2020; Urban Institute, n.d.). One such exception is a study from Virginia that examined the differences of early education programs in school-based settings and child care centers (Bassok et al., 2020). The Virginia study found that teachers in child care centers experienced more financial hardship compared to their counterparts in school-based settings. While 99% of school-based teachers moved to remote work, many teachers in child care settings were working in person at the time of the study, facing challenging cleaning and social distancing requirements.

Current Study

This study aims to fill the gap in this research by examining the effects of the pandemic on California ECE programs by program type and funding source. The current paper is part of a broader two-phase study that examined the experiences of licensed family child care providers and center directors in California in April 2020 and June 2020. Drawing from the second phase survey, we explored how the impact of COVID-19 experienced by providers differed across ECE programs. We focused our analysis on two research questions:

1. How do the impacts of COVID-19 on ECE providers, in terms of program status, financial and operational challenges, and well-being of the workforce, differ *between* FCCs and center-based programs?

2. How do these impacts of COVID-19 differ *among* center-based programs (i.e., Head Start and state-contracted centers [such as state preschool programs], voucher-receiving centers, and unsubsidized centers)?

The key purpose of this paper has not been to test a predefined set of specific hypotheses on the impacts of COVID-19 on ECE programs, but rather to explore how the experiences of programs differed across program type and funding sources based on a broad set of measures of COVID-19 impact. However, the previous literature allows for a set of general hypotheses. We expected that providers' experiences of COVID-19 would vary by program type and funding, given the well-documented disparities in resources and workforce support by program type and funding and the varying levels of pandemic support and guidance these programs were offered. Given their overall precarity as small family businesses, we expected that FCC providers would experience deeper financial struggles than center-based programs. Given Head Start and state-contracted centers' financial and workforce stability pre-pandemic and the targeted guidelines and support that they received during the pandemic, we expected that these centers with contracts would be less likely than other centers to experience dire financial challenges and more likely to support their staff. Centers receiving vouchers, which are known to experience financial and workforce instability pre-pandemic, would be more likely than other centers to be negatively impacted by the pandemic, especially with the decrease in child care demand at the time of the study (Smith & Tracey, 2020; Center for Translational Neuroscience, 2020).

Methods

Participants

Starting from the full list of 34,500 licensed family child care providers and centers obtained from the California Child Care Resource & Referral Network and the California Department of Social Services, we sent out the initial survey to about 14,000 providers for whom an email address was available. Compared to the population of 34,500 licensed programs, providers for whom we had email addresses were more likely to be from the

southern region and less likely to be from the northern and central regions. In terms of program type, FCCs had a higher representation and Head Start and state preschool programs had a lower representation in the recruitment pool. Given the urgency of the current crisis and to maximize the reach of the study, the survey was distributed as an open link so that any center director or FCC provider with the survey link could access the online survey, even if they were not in the initial email list. The first survey was fielded from April 13 to April 30, 2020. About 2,200 providers completed the survey. The overall participation rate in the initial survey was about 15%. When compared across program types, participation rates were higher among Head Start and state preschool programs (26%) and lowest among FCC providers (13%).

The follow-up survey was sent only to respondents who participated in the first survey and indicated they wanted to participate in future research. More than 80% of the first survey respondents agreed to participate in follow-up surveys. The survey was distributed to 1,793 providers from June 22 to July 1, 2020, and achieved a response rate of 61%. About 130 cases that did not answer any of the items and those that only answered the first item were excluded from the initial sample. After data cleaning, 953 providers remained.

As a way to correct for potential exclusion, selection, and non-participation biases in the non-probability sample, we used the population data from 2019, which is the most recent administrative data available, to make poststratification adjustments based on the raking method (Baker et al., 2013; Deville & Särndal, 1992; Kolenikov, 2014). Sample data was compared with the population based on two auxiliary variables (i.e., key characteristics available prior to data collection; region and program type). The 2019 population data provided information on population totals of three program types (centers with Head Start or state preschool contracts, centers without such contracts, and FCCs) and five regions

(Northern, Bay Area, Central, Southern, and Los Angeles). We used the two-way region-by-program-type matrix to produce survey weights so that the distribution of the resulting weighted data matched that of the population. Additional variables in the 2019 population data, including age group or licensed capacity, were considered but not used due to the possibility that these features may have changed during the pandemic and, thus, during the survey collection the population may have diverged from the 2019 population data for these characteristics.

We compared the distributions of the auxiliary variables in our sample and the population (**Table 1**). Centers were generally overrepresented in the sample compared to FCCs. Among centers, the sample had a lower representation of Head Start and state preschool programs than in the population. In terms of regional distribution, programs in the Bay Area and the Southern region had higher representation in the sample than in the population. As mentioned above, we used the raking method so that the distributions of auxiliary variables in the sample matched the distributions from the population. After this process, the sample matched the population on region-by-program-type distribution.

Table 2 shows key demographic characteristics of the sample based on weighted data. Both center directors and FCC providers were overwhelmingly women (96% and 99%, respectively). The ages of both center directors and FCC providers were about 52 years on average. Among the center-based programs, directors in unsubsidized programs tend to be older than those in Head Start and state preschool programs (53 and 50 years old, respectively).

[Table 2 about here]

The racial and ethnic distribution of center directors and FCC providers differed starkly. Center directors were significantly more likely to be White (69%) and less likely to

be Black (3%) or Latina (14%) than FCC providers, who were 42% White, 14% Black, and 28% Latina. Compared to past reports on the racial/ethnic makeup of California ECE providers, White providers were overrepresented, and Latina and Black providers were underrepresented in our director sample (Whitebook, Sakai, Kipnis, Lee, Bellm, Almaraz, et al., 2006). For the FCC sample, Latina providers were underrepresented, and White and Black providers were overrepresented compared to the most recent data on FCC providers in California (Austin et al., 2018).

Procedures

Both the first and second surveys were online surveys collected through Qualtrics. The first survey included about 20 questions, and the follow-up survey had about 30 questions, with some of the same questions asked in the first survey and additional questions about program impact and provider demographics. Both surveys were developed through a multipronged approach. We reviewed national and state surveys on the impact of the pandemic on ECE programs available at the time of the survey development (Urban Institute, n.d.) and also drew upon past studies on the California ECE workforce (Whitebook, Sakai, Kipnis, Lee, Bellm, Almaraz, et al., 2006; Whitebook, Sakai, Kipnis, Lee, Bellm, Speiglman, et al., 2006). In addition, through engagement with FCC providers, center administrators, and center-based teaching staff in California and across the United States, we heard directly from early educators about the immediate and long-term challenges they were encountering as the pandemic unfolded and thus gained insights on important topics to include in our surveys.

Measures

Defining Program Types

We used two items from the survey to form the program-type variable. We asked providers to select among the five program types – home-based family child care program; private nonprofit child care center; Head Start, state preschool, or other public child care center; private independent for-profit child care center; and private franchise or chain for-profit child care center. We also asked them to select the sources of program funding, including family fees, contract through Head Start, contract to operate a state-subsidized program, local funding from the city or county, vouchers, private fundraising, and other. Based on the two items, we classified programs that reported being a home-based family child care program as "FCCs" and the others as "centers." As center-based programs often receive funding from multiple sources, we used a strategy of sequential categorization to create mutually exclusive categories (see, e.g., National Survey of Early Care and Education Project Team, 2014). Among the center-based programs, we classified programs that reported having a contract through Head Start or a contract to operate a state-subsidized program in the program funding question as "Head Start and state-contracted centers." Those that reported being a Head Start, state preschool, or other public care center were also classified under this category. Among the remaining centers, those that reported accepting vouchers were classified as "voucher-based centers." The remaining center-based programs did not have contracts through Head Start or with the state and did not receive vouchers. They were classified as "unsubsidized centers." In total, we defined three mutually exclusive center types: Head Start and state-contracted centers; centers receiving vouchers; and unsubsidized centers.

Measures of Impacts of COVID-19 on the ECE sector

Program status and decision factors to stay open or closed. An item that asked whether the program was currently open for in-person care and education was used to

measure program status (*1 if open, 0 otherwise*). We asked open programs how many children had attended the program in January 2020 and how many children were currently attending. Based on the two items, we created an indicator variable on whether the program had fewer children attending in June 2020 compared to January 2020 (*1 if fewer children, 0 otherwise*). To measure the degree of change in attendance, we created a ratio of current attendance to pre-pandemic attendance.

We asked open programs to rate the importance of certain elements in their decision to remain open, including: no financial resources to survive a closure; federal Paycheck Protection Program (PPP) funding; and state or local funding. These items, originally measured on a four-point scale (*not important, somewhat important, important,* and *very important*) were dichotomized to simplify the presentation of results and for ease of interpretation (*1 if important or very important, 0 otherwise*). We also asked closed programs to indicate all factors that affected their decision to remain closed. These factors included concerns about health risks, reduced attendance, inability to cover operating costs, inability to maintain staff, inability to obtain cleaning supplies and food, inability to adhere to guidelines, not serving children of essential workers, and being part of a network of programs that shut down (*1 if selected, 0 otherwise*).

Measures of Impacts of COVID-19 at the program level. We included three measures of financial challenges at the program level: whether the provider missed a rent or mortgage payment; missed a utility payment; and/or was unable to pay one or more vendors (*1 if yes, 0 otherwise*). To understand how providers benefited from stimulus funding and pandemic support, we asked providers to indicate all the financial support they received, including the Paycheck Protection Program, Small Business Administration loans, and Employee Retention Credit under the Coronavirus Aid, Relief, and Economic Security (CARES) Act at the federal

level, funding for essential supplies and subsidies for essential workers from the state, pandemic unemployment assistance, and donations or private funding (*1 if yes, 0 otherwise*). We asked how programs made changes in staffing, including whether they laid off or furloughed staff, reduced staff hours, cut benefits, rehired staff, and/or hired new staff (*1 if yes, 0 otherwise*).

Open programs were asked a series of questions related to program operations. Providers were asked about business challenges, including loss of income from families, higher costs for cleaning supplies and PPE, inability to find those supplies, changes to space or program operations to meet health and safety requirements, and decreased program capacity (*1 if yes, 0 otherwise*). A list of items asked about challenges in staffing, including staff unable to work because they were taking care of their own children, staff taking a leave of absence or reducing work hours, staff or their family members being sick with COVID-19, early retirement due to the pandemic, and not having enough staff to meet new group size and other guidelines (*1 if yes, 0 otherwise*).

Economic well-being and health concerns of the ECE workforce. We included three measures of financial challenges experienced by center directors and FCC providers, including whether providers were unable to pay themselves and whether they took out a second mortgage or took on personal credit card debt to cover expenses for their program. To measure health and safety concerns, we asked providers to rate statements about concerns regarding exposure to COVID-19 among the children in their program, to themselves, and to their own families, using a six-point scale (*1 strongly disagree to 6 strongly agree*). The measures were dichotomized to simplify the presentation of results (*1 if somewhat agree to strongly agree, 0 otherwise*). A supplementary analysis that used the original six-point-scale variables yielded largely consistent results (details available upon request). A list of items

measured sources of health insurance coverage, including employer-provided coverage, Medicare, MediCal, Covered California, direct purchase, covered through policy of spouse or other family member, or uninsured (*1 if selected, 0 otherwise*).

We drew on several questions related to staff support as indirect measures of the work environment and economic well-being of center-based teaching staff and FCC assistants. We asked center directors and FCC providers whether they currently provide health benefits to staff (*1 if yes, 0 otherwise*). We also asked closed programs what types of support they were continuing to provide to staff, including paying full salary, paying full benefits, providing paid leave, and no financial support to staff (*1 if yes, 0 otherwise*).

Analytic Strategy

Our analysis focuses on understanding how the above measures vary by ECE program type in California. We first compared center-based programs and FCCs. Then, we compared the three types of center-based programs: Head Start and state-contracted centers; programs receiving vouchers; and programs without public funding.

To understand the marginal group differences in the impact of COVID-19, we conducted a bivariate analysis using (logistic) regression models, regressing the COVID-19 impact measures on the program-type variables. All analyses were based on weighted data to match known population totals. A supplementary analysis that used unweighted data yielded largely consistent results (details available upon request). Results in the tables are reported in unstandardized metric. Magnitude of the significant effects—calculated with Hedges's *g* for

continuous variables (Hedges, 1981) and Cohen's *h* for indicator variables (Cohen, 1988)—were included in the text.

Results

Differences in Program Status Across Program Types

Table 3 shows that a majority of ECE programs in June 2020, the time of data collection, were open for in-person education and care and that FCCs were significantly more likely to be open than centers (83% compared to 62%; $h = .49$). While most open programs reported having fewer children than they had pre-pandemic, centers were significantly more likely than FCCs to report a reduction in attendance (99% compared to 79%; $h = .75$) and experience greater reductions in attendance (54% compared to 44%; $g = .50$). When asked why they had decided to stay open or reopen, a higher proportion of FCCs than centers reported that they did not have the financial resources to survive a closure (84% compared to 70%; $h = .32$). Center directors were more likely than FCC providers to respond that the Paycheck Protection Program (PPP) loan was an important factor in their decision to open or reopen (64% compared to 37%; $h = .56$).

[Table 3 about here]

When asked why they decided to stay closed, significantly higher proportions of FCC providers than center directors responded that concerns regarding health risks for the children in their program, themselves, and their own families were important decision factors (*h* ranging from .42 to 1.09). Compared to center directors, FCC providers were also more likely to cite challenges related to obtaining cleaning supplies (22% compared to 32%; h = .23) and sufficient food (4% compared to 15%; $h = .38$). A higher proportion of center directors (23%)

compared to FCC providers (4%) responded that they had closed because programs in the network they were part of had all shut down (h = .60).

Program status and decision factors for staying open or closed differed by center-based program type. Centers receiving vouchers were most likely to be open, followed by unsubsidized programs and Head Start and state-contracted centers (79%, 61%, and 45% respectively). Among open centers, Head Start and state-contracted centers (73%) were more likely than voucher-receiving programs (40%; h = .68) and unsubsidized programs (32%; h = .85) to report state and local funding as an important factor for their decision to open/reopen. Unsubsidized centers were more likely than programs receiving vouchers to report that the Paycheck Protection Program (PPP) loan was an important factor for their decision to stay open/reopen (75% compared to 56%; h = .25).

When asked about decision factors for staying closed, centers receiving vouchers were more likely than other centers to respond that concerns about health risks were important factors (mean effect size = .58). Voucher-receiving programs were the most likely to report concerns over health risks for children and families (76%), followed by unsubsidized centers (47%; h = .37) and Head Start and state-contracted programs (23%; h = 1.11). Compared to Head Start and state-contracted centers, voucher-based programs and unsubsidized programs were more likely to respond that various financial and operational challenges were important factors in their decision to stay closed (mean effect sizes were .83 for voucher-based centers and .47 for unsubsidized programs). For instance, 51% of voucher-receiving programs reported lack of attendance as a reason for staying closed, followed by 31% of unsubsidized centers and 8% of Head Start and state-contracted centers (mean effect size = .60). A significantly higher share of Head Start and state-contracted centers (41%)

compared to voucher programs (8%; *h* = .81) and unsubsidized centers (10%; *h* = .73) cited the fact that all programs in their network were closed as their own reason for closure.

Differences in Programmatic Impact Across Program Types

Table 4 shows how the impacts of COVID-19 were experienced at the program level. Compared to centers, FCCs were more likely to report financial challenges such as having missed a utility payment (6% compared to 21%; *h* = .44) or payments for one or more vendors (10% compared to 22%; *h* = .33). When asked about financial support, center-based programs were more likely than FCCs to respond that they had received the PPP loan (58% compared to 20%; *h* = .81) or had obtained support through donations or private fundraising (22% compared to 9%; *h* = .39). A much higher proportion of FCC providers reported that they were supported through the Pandemic Unemployment Assistance program (26% compared to 12%; *h* = .37). Centers were more likely than FCCs to report changes in staffing, such as furloughs (41% compared to 22%; *h* = .42), reduction of hours (41% compared to 33%; *h* = .17), rehires (22% compared to 7%; *h* = .44), and new hires (17% compared to 6%; *h* = .37).

[Table 4 about here]

The programmatic impacts of COVID-19 also varied *among* centers by program type. Overall, Head Start and state-contracted centers were less likely than other center-based programs to report financial challenges at the program level. Significantly lower share of Head Start and state-contracted centers missed a rent (4%), compared to voucher-based programs (27%; h = .69) or unsubsidized centers (19%; h = .51). Head Start and state-contracted centers programs were also less likely than other center-based programs to have received stimulus funding or pandemic support for ongoing operations. For instance, while only 27% of Head Start and state-contracted centers reported having received the PPP loan,

66% of centers receiving vouchers (*h* = .79) and 74% of unsubsidized centers (*h* = .97) reported the same. Voucher-receiving centers were more likely than other centers to report having received financial support from the state. About 39% of centers receiving vouchers received funds for essential supplies, while about 29% of unsubsidized centers (h = .11) and 25% of Head Start and state-contracted programs (h = .31) stated the same. . In terms of staffing, Head Start and state-contracted centers were less likely than other programs to report changes in staffing. For example, while 27% of Head Start and state-contracted centers reported that they had furloughed their staff, 45% of voucher-receiving centers (*h* = .38) and 50% of unsubsidized centers (*h* = .47) reported the same. Compared to other centers, voucher-receiving centers were more likely to report that they had rehired laid-off staff or hired new staff (mean effect size = .37).

In **Table 5**, we show the programmatic challenges experienced by open programs. Center-based programs were more likely than FCCs to report business challenges, such as loss of income from families (85% compared to 71%; *h* = .33), decreased program capacity (80% compared to 37%; *h* = .91), and changes to physical space (74% compared to 46%; *h* = .57) or program operations (87% compared to 57%; *h* = .69). FCCs were more likely than centers to report inability to find PPE (41% compared to 34%; *h* = .15) or cleaning/sanitation supplies (56% compared to 43%; *h* = .26).

[Table 5 about here]

Among center-based programs, Head Start and state-contracted centers were less likely than centers receiving vouchers or unsubsidized programs to report loss of income from families (66%, 92%, and 88%, respectively; mean effect size = .61). However, Head Start and state-contracted programs were more likely than the others to report changes to physical space or program operations as business challenges. For example, almost all Head

Start and state-contracted programs (96%) reported changes to program operations due to health/safety requirements as a challenge, compared to about 85% of voucher-based programs (h = .41) and 82% of unsubsidized centers (h = .48) stated the same. When asked about staffing challenges, centers receiving vouchers were more likely than unsubsidized centers to report staff taking a leave of absence as a challenge (40% compared to 29%; *h* = .11). Head Start and state-contracted centers (81%) were more likely than centers receiving vouchers (58%; *h* = .50) or unsubsidized programs (61%; *h* = .44) to report that staff were unable to work due to health-risk concerns.

Differences in Economic Well-Being and Health Concerns of the Workforce Across Program Types

Table 6 presents various measures related to the economic well-being of the ECE workforce and their health and safety concerns. Compared to center directors, FCC providers were more likely to report individual financial struggles. For example, higher proportions of FCC providers than center directors reported that they were unable to pay themselves (50% compared to 25%; *h* = .51), had taken out a second mortgage (2% compared to 0.5%; *h* = .14), and/or taken on credit card debt (35% compared to 11%; *h* = .60). FCC providers were more likely than center directors to worry about their own families being exposed to COVID-19 by keeping the program open (64% compared to 57%; *h* = .16). When asked about health insurance coverage, center directors were more likely than FCC providers to report that they were covered by their employer (42% compared to 2%; *h* = 1.11). FCC providers were more likely than directors to report that they did not have health insurance (9% compared to 4%; *h* = .22), purchased insurance through Covered California (21% compared to 7%; *h* = .40), or were covered through MediCal (18% compared to 2%; *h* = .60). Centers were also more likely than FCCs to provide health benefits to staff (61% compared to 10%; *h* = 1.16).

[Table 6 about here]

When asked about staff support among closed programs, a significantly higher share of FCCs than centers reported that no financial support was provided to staff (58% compared to 27%; h = .63). These closed centers were more likely than their FCC counterparts to provide support to their staff by paying full salary (49% compared to 8%; h = .98), paying full benefits (34% compared to 2%; h = .94), or providing paid leave (20% compared to 5%; h = .49).

Among the center-based programs, Head Start and state-contracted centers were more likely than other center-based programs to pay salaries and benefits to their directors and staff. Directors in Head Start and state-contracted centers (11%) were less likely than those in voucher-receiving centers (33%; h = .55) or unsubsidized centers (30%; h = .49) to report that they were unable to pay themselves. Directors in Head Start and state-contracted centers (55%) were also more likely than those in voucher-based centers (33%; h = .45) or unsubsidized centers (40%; h = .32) to respond that their health insurance was covered by the employer. Directors in centers receiving vouchers and unsubsidized centers were more likely than those in Head Start and state preschool to report that they purchased their insurance through Covered California (13%, 6%, and 3%, respectively; mean effect size = .26) or were covered through Medicare (9%, 9%, and 1%, respectively; mean effect size = .34).

When asked whether they provide health benefits to staff, Head Start and state-contracted centers (73%) were more likely to report doing so than unsubsidized centers (60%; h = .27) and centers receiving vouchers (48%; h = .51). When asked about staff support to closed programs, significantly higher shares of unsubsidized and voucher-receiving centers than Head Start and state-contracted centers reported that they provided no financial support to staff during closures (42% and 45% compared to 6%, respectively; mean effect size = .95).

A significantly higher share of Head Start and state-contracted centers paid their staff full salary compared to voucher-receiving centers or unsubsidized centers (64% compared to 40% and 39%, respectively) and offered full benefits during periods of closure (47% compared to 21%, and 26%, respectively), with effect sizes ranging from .44 to .57. Head Start and state-contracted centers (35%) were also more likely than voucher-based centers (5%; $h = .83$) or unsubsidized centers (9%; $h = .66$) to provide their staff with paid leave.

Discussion and Conclusion

While most providers, regardless of program setting, experienced profound economic and operational challenges due to the pandemic (Daro & Gallagher, 2020; Iowa Child Care Resource & Referral, 2020; National Association for the Education of Young Children, 2020c, 2020d; Oregon Department of Education: Early Learning Division, 2020), the ways in which the pandemic affected programs varied by program type and funding source, revealing pre-existing instability and inequities in the ECE sector and workforce. The study shows that providers that tended to be more under-resourced and precarious before the pandemic—FCC providers and centers without Head Start or state contracts—were also offered less support and guidance as they navigated the early months of the pandemic. It is highly likely that the pandemic exacerbated pre-existing inequities. Our speculation finds support in mounting evidence from past and current pandemics regarding the disproportionate impact of the crises on more-vulnerable socioeconomic groups and small businesses owned by women and people of color, especially in the absence of policy interventions (Fairlie, 2020; Furceri et al., 2021; Perry et al., 2021). As policymakers in California and across the United States are engaging in discussions about building back the ECE sector, this data sheds light on the inequities that must be addressed to create a universally stable, equitable, and quality system

of early care and education that works for children, families, and the workforce, regardless of program setting and funding.

Differences in the Impacts of COVID-19 on Centers and FCCs

Compared to center-based programs, FCCs fared worse in most measures of economic hardship that directly impact individual care providers. Even though FCCs were more likely than centers to be open for in-person care, many of them were still not able to cover their basic operational expenses. The financial burden fell directly on the providers themselves and their employees. For example, close to one-half of FCC providers struggled to pay themselves and about a quarter took on credit card debt, which were much higher rates than observed among center directors (medium effect sizes). They were also more likely to miss a rent or mortgage payment for their program sites, which were also their homes. The majority of FCCs were not able to provide health benefits or financial support to their staff during program closure, while about a quarter of centers reported this inability (mostly large effect sizes). These programs stayed open primarily because they did not have the financial resources to survive a closure. It is not a surprise that FCCs faced these challenges, given accounts of the lack of resources and financial instability among FCC providers pre-pandemic (Mimura et al., 2019; Tonyan et al., 2017). Compounding the absence of a financial buffer to help weather the challenges that came with operating in a pandemic or closing down, many FCC providers also lack a support system that keeps them connected to other providers and sources of information and assistance (Gerstenblatt et al., 2014; Porter et al., 2010). These factors may help explain why fewer FCCs applied for and received PPP funds. Because FCCs are operating out of their homes, they were more likely to be concerned about staying open and possibly exposing members of their households to the virus. This worry is underscored by the fact that more FCCs report that they do not have health insurance.

Centers, on the other hand, were more likely than FCCs to experience various financial and operational challenges at the program level. A vast majority of centers reported challenges related to having to change program operations due to health and safety requirements, compared to about one-half of FCCs reporting the same (medium effect sizes). While all programs had to adjust in order to meet new health and safety guidelines that limited the number of children, group sizes, and movement of teaching staff (California Department of Social Services, 2020a, 2020c), these new requirements may have been more challenging for centers because of their larger size (Grunewald, 2020). Additionally, many families were sheltering in place and kept their children home, which contributed to the vast majority of center directors reporting decreased program capacity, reduced attendance, and a resulting loss of income (effect sizes ranging from .33 to .91). Personnel costs make up the largest portion of total program expenses (Workman, 2018). Thus, loss of income inevitably led to reduction in staff through furloughs or reduction in work hours. Although center directors were more likely than FCC providers to be paid, the financial burden again falls on other individuals within centers than the directors interviewed, namely the center-based teaching staff that were laid off, furloughed, or had their hours reduced to help the programs stay afloat.

These varied impacts between FCCs and centers are, in part, a result of their structural differences. In FCCs, the program represents the provider as both an individual and a business, and impacts to the business directly involve both her living arrangements and those of her family as well as her job. While center directors may also be owners of their programs, many of them are often administrators employed by the center, and the places of business do not serve as their homes. For this reason, business challenges in the programs may not always have direct implications for individual center directors as they do for FCC providers. As the

study shows, it appears that one of the main ways centers mitigated financial strain during the pandemic was through making changes to their staffing.

Still, it should be noted that while the ways in which the pandemic affected different programs varied in kind and sometimes in degree, other challenges appear to have been born equally by all programs, regardless of type. We found that a majority of both FCC providers and center directors across the state reported concerns about personal exposure to COVID-19, as consistently reported in other national- and state-level studies (Daro & Gallagher, 2020; Sonnier et al., 2020). Drops in attendance and loss of income from families were also experienced by the vast majority of programs overall.

Differences in the Impacts of COVID-19 Among Center-Based Programs

We also show that among center-based programs, those centers that received stable public funding (such as Head Start, state preschool programs, and other publicly contracted centers) were less likely to be negatively impacted by COVID-19. Less than half of Head Start and state preschool programs were open for in-person care at the time of the study, while the vast majority of voucher-based programs and a majority of unsubsidized centers reported the same (effect sizes ranging from .32 - .71). Because these stably funded programs continued to be financially supported to cover operating and personnel expenses during periods of physical closure, closures did not translate into financial risk nor were they indicative of permanent closure. These centers were able to protect the health of staff while continuing to pay wages and offer benefits. They were shielded from most financial struggles, staffing challenges, concerns over health risk, and risk of permanent program closure. These closed programs were also less likely than other centers to report a loss of income from

families,[5] since they were reimbursed for contracted slots even when they were physically closed or operating with reduced attendance (California Department of Education, 2020b; Child Care and Development Services Act, 2020; Head Start ECLKC, 2020b). Head Start and state-contracted programs were less likely than other centers to report staffing changes. For example, about a quarter of these contract-based centers reported on having furloughed staff, while close to one-half of voucher-based centers and unsubsidized centers reported the same (small effect sizes). While few Head Start and state-contracted centers reported that they were not able to provide financial support to their staff during program closure, close to one-half of the other centers reported this inability (large effect sizes). However, Head Start and state-contracted programs were more likely than other center-based programs to indicate that changes to their physical space or program operations were challenges for their business. This finding may be related to the overwhelming myriad of regulations they had to navigate as state contractors. It may also be that in the absence of more dire financial challenges, they named these administrative and facility related challenges.

Compared to state-contracted centers and Head Start programs, the private-pay centers and centers that received some of their income through vouchers, which account for the majority of programs in California, were more likely to be open and yet less likely to cover basic operational expenses or support their staff. While centers that receive vouchers were the most likely to be open for in-person care, they tended to suffer from higher levels of fluctuation in staff employment. Previous California studies found that centers receiving vouchers are more under-resourced compared to Head Start and state-contracted centers and unsubsidized centers, experiencing financial instability and higher turnover of staff

[5] California state-contracted centers charge family fees (co-payments) for contracted slots for families above a certain income level, on a sliding scale. Additionally, many California programs that have Head Start and/or state contracts also serve private pay families, explaining why some of these programs reported a loss of income from family fees, despite the reimbursements they continued to receive from the federal and/or state government.

(Whitebook, Sakai, Kipnis, Lee, Bellm, Almaraz, et al., 2006). The crisis highlighted the insufficiency of the voucher system, both before and during the pandemic. Past studies have underscored the unreliable nature of vouchers as stable funding sources for providers (Adams, et al., 2008; Giapponi Schneider et al., 2021; Schumacher, 2020). During the crisis, programs receiving subsidies were reimbursed based on enrollment rather than attendance, but the voucher payments alone were not enough to help weather the challenges and offer the needed financial support to their staff.

Throughout California and the United States, child care centers and FCCs have closed under the strain of the pandemic, some permanently (National Association for the Education of Young Children, 2020d). Our study reveals that the challenges programs face differ greatly depending on program type and funding source; publicly contracted programs are proving to be more stable, better able to support the well-being of staff during the pandemic, and likely to survive the crisis. State-contracted programs and Head Start, much like K-12 schools, have been able to close in accordance with stay-at-home orders and protect the health of their staff, while continuing to pay staff salaries, benefits, and operating costs. As they have reopened or moved towards reopening, they are not facing debt or rehiring challenges. Meanwhile, the majority of programs receive little-to-no stable public funding and are struggling to stay afloat.

Study Limitations

Findings should be interpreted in the context of several limitations. In order to respond to the urgent need for data in the middle of a pandemic, we leveraged a sample of convenience that drew on a data set of all licensed California child care centers and family child care homes for which we had email addresses, and we released the survey as an open link. This sample was therefore a non-representative sample of licensed California programs.

We made poststratification adjustments based on the region-by-program-type distribution in the population data from 2019, which is the most recent administrative data available.

However, the potential for bias remains. As discussed earlier, FCC providers had much lower participation rates than center directors, and those employed in Head Start and state preschool programs had higher participation rates than other center directors. Our sample also tends to overrepresent White providers and underrepresent Latina providers when compared to previous studies. This finding may be due to pandemic-specific nonresponses—it is possible that providers who chose to participate in the survey were less stressed than those who did not respond to the survey. Other studies have shown that people of color, immigrants, and small business owners have suffered disproportionately from COVID-19 (Ong et al., 2020; Tai et al., 2021). If providers who experienced greater challenges during the pandemic were systematically underrepresented in our sample, the disparity in the impacts of COVID-19 across program types may likely be larger in the population than what our study suggests. The differential participation rates by race/ethnicity may likely have led to an understatement of the overall negative impacts of COVID-19 on the ECE field, as well as the disparities based on program type, since FCC providers are more likely than center directors to be women of color.

On the other hand, the misalignment between our sample and past state representative data could be due to real changes. Because the demographic benchmark data are from 2006 and 2012 statewide studies, it is possible that the racial/ethnic makeup of the ECE provider population has changed since then. We will be able to sort out these possibilities and make further adjustments of additional coverage errors, nonresponse, and non-probability sampling once more up-to-date statewide surveys from probability samples become available,

including the forthcoming California data from the 2019 National Survey of Early Care and Education and the forthcoming 2020 California Early Care and Education Workforce Study.

Another key limitation of the study, similarly stemming from the sample itself, is the fact that teaching staff (teachers, assistant teachers, and teacher aides in center-based programs as well as assistants in home-based programs) were not included in the study. License-exempt providers were also not included in the study. While population-level licensing data are available for all programs, there are no population-level data for center-based teachers, requiring researchers to use center directors (or other administrators) as conduits to their teaching staff. In this study, we only engaged with the administrators leading their programs, whether centers or FCCs, so although we collected data on individual characteristics for those program leads, as well as data on their staff, our study findings are not able to comprehensively speak to the ECE workforce as a whole because we did not collect data from the teaching staff population.

It also should be noted that our survey was conducted in June 2020, and our findings capture a snapshot in time. The spring and summer of 2020 was a time of particular fluctuation for ECE programs. Some of the programs that were open at the time of data collection may have since closed permanently, while other programs that were temporarily closed at the time of the survey may now be operational. Still, many of the patterns of disparate impact that our study revealed may have continued since June 2020, since little has changed in terms of California policy in the intervening time period. Results should be interpreted in consideration of the study timeframe. It will be important to use data from multiple time points or follow-up surveys to understand longitudinal changes and program experiences over the course of the pandemic.

Implications for Future Research

This study underscores the importance of disaggregating data about the ECE workforce and providing analyses that take into account program characteristics and document variations within the sector. The complex mixed-delivery system in early care and education, detailed here for California but also the dominant model across the United States, creates particular challenges for research due to the range of ways in which a program might be structured, funded, and regulated. Future research should endeavor to unpack the differences among program types in order to provide a more fine-grained analysis of how policies could (or already do) impact different programs and the individual educators working in them. This study documents the effects of the pandemic on a range of program types, but future research should seek to better understand how those variations were manifested prior to the pandemic and continue to track potential variations as the state moves towards rebuilding the ECE system and reimagining the ECE policy landscape.

Future studies must also contend with the health and well-being of the workforce and aim to reframe ECE programs as not merely settings for children's learning, but also work environments for adults. The pandemic has focused a much-needed light on the challenging environments in which early educators work, made even more complicated by the proliferation of regulations and guidelines that have changed the nature of the work and altered the physical layout of their space. As health and safety concerns have moved to the forefront of ECE policy and practice since the start of the pandemic, health coverage for early educators has also emerged as a topic of interest. Future research should focus on the prevalence and quality of health coverage within the ECE field, with a particular emphasis on the variations in health coverage for providers in different settings. It will also be important to understand how pandemic-related stressors—including financial strain, ongoing health and safety concerns, and limited access to health insurance—impact providers' mental health and well-being.

Policy Implications & Conclusion

Our study findings indicate that the pandemic did not affect the California ECE sector uniformly and may have exacerbated long-entrenched disparities within the sector based on program type and funding. For the past three decades, it has been clear that the ECE industry is built on a shaky foundation (Whitebook et al., 2014). The mixed-delivery, market-based system in California is incredibly complex: nominally similar programs may be on vastly different financial footing as a function of their access to public funding and characteristics of the families they serve (including the income of those families), with disparate outcomes for children, families, and the ECE workforce. These study results highlight the prevalence of those disparities, which were well documented before the current crisis (Whitebook et al., 2018), and underscore the notable differences in how the pandemic and resulting policy responses have affected programs and the individuals working in them.

As the effects of the pandemic rippled through the ECE system, funding has been directed to the sector to try to stem the loss of programs and ensure that the essential service of child care continues to be available for essential workers and working families. As California policymakers determine how to allocate federal dollars, this study can help ground their efforts in the reality that ECE programs and the workforce encompasses a range of experiences and that funding and policy responses should be differentiated based on program setting and funding source.

Because FCC providers tended to remain open in large numbers, some policymakers have looked to family child care as the answer to increasing the supply of child care post-pandemic. However, as our findings show, many open FCC providers faced major financial challenges, fared worse in measures of individual economic well-being than did other providers, and were less likely than their center-based counterparts to receive stimulus

funding. As structured, FCC providers face daunting operational and financial challenges even in the best of times (Deery-Schmitt & Todd, 1995; Gerstenblatt et al., 2014; Mimura et al., 2019; Tonyan et al., 2017). Furthermore, FCCs are also more likely than center operators to be women of color (Austin et al., 2018). Rather than leaning into this idea wholesale, we should first examine critically why FCCs were more likely to remain open during this global health emergency and what state/federal support these providers require during the current health emergency and beyond.

The study also underscores the importance of stable public funding, both before and during the pandemic. However, despite differentiated outcomes by funding source, to date California state policy response to the pandemic has largely allocated financial relief to programs already receiving public funding, jeopardizing the stability and survival of unsubsidized programs and undermining the ability of California's ECE sector to equitably serve children and families. During the first round of federal relief in the spring of 2020, the time period in which our study was conducted, California provided assistance to ECE programs primarily through: 1) funding emergency care for essential workers through the subsidy system; 2) continuing to fund publicly funded programs to maintain operating and personnel costs; 3) providing one-time stipends to subsidized programs for reopening and pandemic-related costs (stipends were distributed in the fall of 2020); and 4) establishing a fund to subsidize the purchase of cleaning supplies and PPE. Because financial support, with the exception of funds for cleaning supplies and PPE, was available only to subsidized programs, these one-time infusions of assistance, did not reach all providers in the state. More importantly, the assistance helped in the short-term, but did not help stabilize the industry as a whole or mitigate disparate outcomes. As we see in our study findings, centers with stable contracted slots fared better than either unsubsidized centers or centers receiving

vouchers. It is important to reiterate that only about one-third of programs, serving about 10% of children in California, receive stable contract-based public funding.

Since the time of our data collection, unprecedented federal funds have been directed to the ECE sector via the Coronavirus Response and Relief Supplemental Appropriations Act (CRRSA), passed in December 2020, and the American Rescue Plan Act (ARPA), passed in March 2021. CRRSA allocated $964 million in additional CCDBG funds to California to provide immediate assistance to child care providers; the state has so far allocated the majority of these funds only to subsidized programs (Legislative Analyst's Office, 2021). California is also anticipated to receive approximately $3.8 billion for child care through ARPA, although the state has not yet appropriated these funds (Legislative Analyst's Office, 2021).

As California determines how to utilize the historic amount of funding available through CCRSA and ARPA, these study findings demonstrate that future public policies can be used to ameliorate, rather than deepen, disparities. Providers that were hit hardest by the pandemic –FCC providers and centers without public contracts–should be prioritized in allocation of the federal coronavirus relief funds. Our study shows that Head Start and state-contracted centers provided better employee job security during the pandemic, whereas voucher-based programs and unsubsidized centers had to cut staffing costs and reduce staff size to cope with closure or decrease in the number of children served. One way to help stabilize the workforce is to reimburse subsidized, voucher-based programs based on child enrollment instead of attendance, as temporarily done during the pandemic. For unsubsidized centers, predictable, stable, and adequate funding, perhaps a contract-based arrangement, can help build better job security for staff.

California has the opportunity to support and help stabilize programs and early educators, regardless of setting or funding source, in recognition of their key contribution to the state's infrastructure before and during the pandemic. As the ECE sector looks toward a post-pandemic future, with policymakers in California (and elsewhere) eager to rebuild and rebound, this study offers a sobering reminder that we cannot simply attempt to reconstruct the system as it existed prior to 2020. There were fundamental cracks in the California ECE system pre-pandemic, so policies that seek to rebuild must address the deep inequities within the system in order to realize substantive progress.

Credit Author Statement

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Table 1. Auxiliary variables in the sample and population

	Sample (Unweighted)	Population
Program type		
Head Start and state preschool programs	6.4%	8.3%
Other centers	33.3%	19.5%
FCCs	60.3%	72.1%
Region		
Northern	6.4%	6.5%
Bay Area	25.8%	23.4%
Central	15.5%	19.0%
Southern	35.9%	30.3%
Los Angeles	16.4%	20.8%

Table 2. Demographic characteristics of center directors and FCC providers, by program type

	Center vs. FCCs		Centers			
	Centers	**FCCs**	**Head Start/ State-contracted centers**	**Voucher-based centers**	**Unsubsidized centers**	**Sig. diff. between center types[a]**
Gender (% female)	95.8	98.9**	96	96	95.4	
Age	51.8 (10.8)	51.8 (10.9)	49.9 (10.4)	51.5 (10.5)	53.3 (11.1)*	a<c
Race/Ethnicity (%)						
White (not Hispanic/Latina)	69.3	41.7***	57.2	71.4+	76.2**	a<b,c
Black	2.6	14.2***	4.2	1.9	2	
Hispanic, Latina	13.7	28.2***	26.5	12.8*	5.6***;*	c<b<a
Asian	6.6	5.4	5.1	3.4	9.8;*	b<c
Other	7.8	10.6	7	10.4	6.5	
Unweighted N	*358 - 364*	*539 - 550*	*55 - 58*	*117 - 119*	*185 - 187*	

Note: [a] a – Head Start and centers with state contracts; b – Programs that receive vouchers; c – Unsubsidized programs

[b] Unweighted N

[†]p<.1; [*]p<.05; [**]p<.01; [***]p<.001

Table 3. Program status of ECE providers and decision factors to stay open or closed, by program type

	Center vs. FCCs		Centers			
	Centers	**FCCs**	**Head Start/ State-contracted centers**	**Voucher-based centers**	**Unsubsidized centers**	**Sig. diff. between center types[a]**
Program status [b]	***377***	***576***	***61***	***122***	***194***	
Open (%)	61.4	82.8***	45.4	79***	61.3*;**	a<c<b
Changes in attendance (open programs) [b]	***242***	***367***	***28***	***95***	***119***	
Fewer children compared to January 2020 (%)	98.9	78.5***	100	98	99.1	
Attendance compared to pre-pandemic (%)	44.2 (18.1)	54.4 (21.7)***	41.7 (12.9)	47.3 (20.8)	43.0 (17.9)	
Decision to open/reopen [b]	***245***	***471***	***28***	***96***	***121***	
No financial resources to survive closure	70.3	83.8***	65.2	72.8	70.9	
Received PPP	64.2	36.7***	58.1	55.8	74.5;**	b<c
Received state/local funding	43.6	44.3	72.8	39.9**	31.5***	b,c<a
Decision to stay closed [b]	***132***	***102***	***33***	***26***	***73***	
Concern over health risks for children/families	41.1	61.7**	23	75.5***	47*;**	a<c<b
Concern over health risks for oneself	25.7	64.7***	17.2	46.9*	26.7;+	a,c<b
Concern over health risks for own family	23.0	74.7***	13.8	50.7**	22.3;*	a,c<b
Not enough attendance	24.1	55.0***	8.2	50.6***	30.6**;+	a<c<b
Unable to cover operating costs	21.4	31.0	0	50.1***	32.5***	a<b,c
Unable to maintain staff	17.2	14.6	7.9	35.2*	20.1+	a<b,c
Unable to obtain cleaning supplies/PPE	22.2	32.3+	14.3	40.2*	23.6	a<b
Unable to obtain sufficient food	4.4	15.2**	3	8.3	4.5	
Unable to adhere to guidelines	10.7	32.6***	3	27.3*	12.5+	a<b,c
Not serving children of essential workers	31.8	41.3	8.7	45.8**	49.9***	a<b,c

Note: [a] a – Head Start and centers with state contracts; b – Programs that receive vouchers; c – Unsubsidized programs

[b] Unweighted N

*†p<.1; *p<.05; **p<.01; ***p<.001*

Table 4. Programmatic impacts of COVID-19, by program type

	Center vs. FCCs		Centers			
	Centers	**FCCs**	**Head Start/ State-contracted centers**	**Voucher-based centers**	**Unsubsidized centers**	**Sig. diff. between center types[a]**
Financial challenges (all) [b]	***356***	***557***	***58***	***117***	***181***	
Missed a rent/mortgage payment	16.4	22.6*	3.7	26.5***	18.7***	a<b,c
Missed a utility payment	6.4	20.9***	1.7	10.7**	6.8*	a<b,c
Unable to pay one or more vendors	9.6	21.5***	5.9	11.7	10.8	
Financial support (all) [b]	***368***	***562***	***58***	***122***	***188***	
Federal PPP loan	57.6	19.5***	27.1	65.6***	73.5***	a<b,c
Federal Small Business Administration (SBA) loan	13.6	17.8+	10.9	16.4	13.5	
Federal Employee retention credit under the CARES	5.3	2.8+	4.8	3.5	6.8	
State funds for essential supplies	30.5	35.6	25.1	39.0+	28.6;+	a,c<b
State subsidies for essential workers	17	20.6	19	29.3	7.1*;***	c<a,b
Pandemic unemployment assistance	12	26.3***	4.8	14.3*	15.4**	a<b,c
Donation or private fundraising	22.4	8.7***	12.4	25.0*	27.5**	a<b,c
Changes in staffing (all) [b]	***365***	***334***	***60***	***117***	***188***	
Laid off staff	26.2	30.1	16.9	34.1*	27.8+	a<b,c
Furloughed staff	41.4	22.2***	26.9	45.2*	49.5**	a<b,c
Reduced staff hours	41.4	33.1*	29.8	48.6*	45*	a<b,c
Cut staff benefits	3.9	3.6	0	6.9**	4.8**	a<b,c
Rehired previously laid off staff	22.4	7.4***	11.8	39.4***	19;***	a,c<b
Hired new staff	17.4	6.0***	13.1	30.4**	11.9;***	a,c<b

Note: [a] a – Head Start and centers with state contracts; b – Programs that receive vouchers; c – Unsubsidized programs

[b] Unweighted N

*†p<.1; *p<.05; **p<.01; ***p<.001*

Table 5. Operational challenges among open programs, by program type

	Center vs. FCCs		Centers			
	Centers	**FCCs**	**Head Start/ State-contracted centers**	**Voucher-based centers**	**Unsubsidized centers**	**Sig. diff. between center types[a]**
Business challenges (open programs) [b]	***245***	***473***	***28***	***96***	***121***	
Loss of income from families	84.7	71.1***	66.1	92.0**	88.2*	a<b,c
Higher costs for cleaning/sanitation supplies and PPE	86.6	77.1**	82.8	89	86.5	
Inability to find or access PPE	33.7	40.9+	30.6	34	35	
Inability to find cleaning/sanitation supplies	42.9	56.1**	28.2	53.0*	42.1	a<b
Changes to physical space to meet health/safety requirements	74.1	46.4***	86.8	70.5*	70.6*	b,c<a
Changes to program operations to meet health/safety requirements	86.5	56.6***	96.4	85.0*	82.4**	b,c<a
Decreased program capacity due to health/safety requirements	80.4	37.1***	80.4	75.1	84.8;+	b<c
Staffing challenges (open programs) [b]	***231***	***274***	***26***	***93***	***112***	
Unable to work because of own care-taking duty	49.9	14.9***	56.1	50.6	45.9	
Taking leave of absence	37.8	10.4***	51.2	39.6	29.0;*	c<b
Reducing the number of hours	30.1	18.4**	24.5	32.9	30.6	
Unable to work due to health-risk concerns	64.1	26.7***	80.5	58.0*	60.7*	b,c<a
Sick with COVID-19	1.6	0.5	4.2	0.9	0.8	
Family members sick with COVID-19	6.5	2.2+	13.6	7.4	2.0;+	c<b
Early retirement due to COVID-19	10.2	3.0**	9.2	11.9	9.1	
Short of staff to meet new guidelines	19.8	8.1**	18.1	22.9	17.8	

Note: [a] a – Head Start and centers with state contracts; b – Programs that receive vouchers; c – Unsubsidized programs

[b] Unweighted N

*†p<.1; *p<.05; **p<.01; ***p<.001*

Table 6. Well-being of the workforce, by program type

	Center vs. FCCs		Centers			
	Centers	**FCCs**	**Head Start/ State-contracted centers**	**Voucher-based centers**	**Unsubsidized centers**	**Sig. diff. between center types[a]**
Financial well-being (all) [b]	***356***	***557***	***58***	***117***	***181***	
Unable to pay myself	25.2	49.8***	11	33.1***	30.2**	a<b,c
Taken out a second mortgage	0.5	2.0*	0	0	1.2	
Taken on credit card debt	10.6	34.7***	7.2	14.5	10.4	
Health worries (all) [b]	***376***	***557***	***60***	***122***	***194***	
Children exposure to COVID-19	60.1	48.5**	63.1	55.2	61.3	
Personal exposure to COVID-19	60.2	63.3	57.4	57.2	64.1	
Own family's exposure to COVID-19	56.7	64.3*	57	49.9	61	
Health insurance coverage (all) [b]	***360***	***551***	***57***	***118***	***185***	
No health insurance	3.5	8.7**	2	6.2	2.7	
Purchased directly from insurance company	9.6	10.7	7.5	7.2	12.7	
Purchased through Covered California	7.1	20.6***	3.1	13.3**	5.7;*	a<b,c
Covered by employer	42.4	2.3***	55.4	33.3**	39.5*	b,c<a
Covered by policy of spouse	31.4	31.8	33.8	26.9	32.8	
Covered through Medicare	6.9	9.6	1.9	9.1*	8.9*	a<b,c
Covered through MediCal	1.7	17.5***	0	4.8	0.7	
Provision of health benefits to staff (all) [b]	***329***	***240***	***58***	***107***	***164***	
Currently providing health benefits to staff	60.8	9.5***	72.7	48.0**	60.2+;*	b<c<a
Staff support (closed) [b]	***127***	***39***	***31***	***26***	***70***	
No financial support to staff	27.3	58.0**	6.1	45.1***	41.5***	a<b,c
Paying full salary	49.3	8.0***	64.1	39.7+	38.5*	b,c<a
Paying full benefits	34.2	2.3***	47.4	20.8*	26.2*	b,c<a
Providing paid leave	19.7	4.6**	35.7	4.9**	9.4**	b,c<a

Note: [a] a – Head Start and centers with state contracts; b – Programs that receive vouchers; c – Unsubsidized programs

[b] Unweighted N

*†p<.1; *p<.05; **p<.01; ***p<.001*