

Child Care is Key to Our Economic Recovery

What it will take to stabilize the system during the coronavirus crisis

Technical Appendix

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This analysis provides new estimates of what it would cost to sustain the child care system through the coronavirus pandemic. We estimate that at least \$9.6 billion is needed each month to fully fund existing providers in the child care system—which would allow them to retain their staff at full pay and eliminate cost burdens for families—and to offer safe, comprehensive emergency care at no cost to an estimated 6 million children of essential workers in need of care.

This Technical Appendix provides detailed information about our data sources, assumptions, and analytic process. For a brief overview of our analysis, see www.clasp.org/publications/child-care-key-our-economic-recovery.

Methodology and results

The analysis proceeds in the following broad steps:

1. Estimate the usual “baseline” monthly cost of care using data on enrollment, hours, and prices from a nationally representative survey of families and providers before the coronavirus crisis.
2. Estimate the number of children of essential workers in need of emergency care.
3. Estimate how the operating costs of providers that are open will change in order to provide emergency care. Safely providing emergency care requires that providers follow guidance related to reduced numbers of children per room while also addressing increased staffing costs, higher costs of certain materials to maintain health and safety, and lower overall enrollment.
4. Estimate the combined cost of keeping closed providers and staff economically whole and the cost of providing emergency care.
5. Recognize and deduct existing federal Child Care and Development Block Grant (CCDBG) funding for the child care system to yield an estimate of the new funds needed each month to achieve the stated policy goals, adjusted for inflation since price data were collected in 2012. We use that to estimate the number of months \$50 billion in new funding would last, assuming the funding is utilized in the ways discussed here.

Two overarching assumptions informed our methodology:

- **Emergency-care funds** target providers within the current system that remain open to supply emergency care at no cost to essential workers, regardless of income. Providers that offer emergency care operate at lower-than-usual capacity but incur additional per-child expenses due to increased staffing costs (including premium pay), new hygiene measures, and higher costs of some supplies. Accordingly, relief funds compensate providers for emergency care at a premium above usual per-child rates.
- **Relief funds** target child care providers that are facing revenue losses in order to ensure they can resume typical operations as the economy moves towards normal order. Providers that are not offering emergency care are closed, but relief funds cover 100 percent of operating costs on the condition that programs continue to pay their staff at regular wages. Families who normally rely on these providers neither use nor pay for care.

These assumptions guide our analysis and are not meant to capture what is currently happening in states and communities. States could justifiably make different policy choices to meet the unique needs of communities, which would affect the amount of funding needed to keep providers whole and/or provide emergency care. For example, our analysis assumes all providers not providing emergency care are closed and fully compensated at current rates, but providers across the country are under a variety of different orders. At the publication of this brief, 20 states have closed child care programs with exceptions for essential workers, and one state (Rhode Island) has closed child care programs altogether.¹ While some programs in the remaining 29 states and the District of Columbia may stay open, many have been effectively forced to close due to the temporary coronavirus-induced collapse of demand and resulting low enrollment numbers. In fact, a recently released survey of more than 5,000 early childhood providers found that nearly half of respondents reported that their program was currently closed and virtually all open programs are operating at diminished capacity.² Our position: relief funds should be available to programs that have lost revenue, regardless of their operating status, to keep their facilities and staff intact and ready for re-opening to support the economy's move towards normal order.

Similarly, we assume that emergency care is offered exclusively through the group of private center- and home-based providers analyzed in our sample. However, states are quickly propping up emergency care using various strategies to provide care to families. Some rely exclusively on centers as emergency-care providers, while others rely on both centers and home-based providers. Some are even using “pop-up centers,” after-school programs, and public schools. From a policy standpoint, we consider any individual provider or facility receiving funding to provide emergency care to be an “extension” of the child care system. But if states are not using existing providers in the system to provide emergency care, those providers would still need to be kept whole or reimbursed for lost revenue if we want them to be able to re-open. Our estimates will understate the need for investment in these circumstances.

We acknowledge and discuss these and other assumptions throughout the methodology.

Baseline estimates: Typical monthly costs

We use data from the 2012 National Survey of Early Care and Education (NSECE)—a federally-funded, nationally representative dataset that characterizes the use and availability of early care and education in the United States—to generate an estimate of the number of child care providers, the number of hours they offer care each week, and hourly prices per child.³

Center-based programs. The NSECE center-based universe includes a total of 129,000 providers that serve at least one child aged 0 through 5. Centers may also serve school-age children, but facilities that only offer after-school programs are not included in the universe. Collectively, these centers serve more than 10 million children under the age of 13, or an average of 78 children per center.

We exclude 18,400 centers that are run by school districts or government agencies and are likely operating state pre-kindergarten or Head Start programs with more stable funding sources. The remaining 110,600 centers included in our analytic universe include private nonprofit and for-profit programs, some of which may have contracts to provide Head Start or state pre-kindergarten services. At the time of the survey, 14 percent of non-government run providers reported some Head Start funding and 16 percent reported some state pre-kindergarten funding.⁴ We did not attempt to remove the private programs that report either of these funding sources, since providers often blend and braid multiple funding sources together to administer services.

The NSECE technical analysis reports indicate the number and share of center-based programs that operate at least 30 hours per week.⁵ A majority of centers (70 percent) in the full sample operate for 30 hours per week or more (we consider these programs full time) and 27 percent operate for less than 30 hours per week (we consider these part time). Three percent of centers have operating hours that are missing or undetermined. We assume centers with missing data are missing at random and re-allocate them to full- or part-time status in proportion to each category's share among observed cases, such that in our resulting analytic universe of 110,600, 72 percent of all centers operate full-time and 28 percent operate part-time. We may be overestimating the number of private providers that operate on a part-time basis given that many school-based programs for preschoolers (children ages 3 to 5) offer half-day schedules and those programs are excluded from our analysis.

For the purposes of calculating total enrollment hours, we assume that all full-time centers operate 40 hours per week and all part-time centers operate 20 hours per week. As a result, we estimate that centers offer a total of 295.2 million enrollment hours per week.

The NSECE technical analysis reports also include the average and median hourly prices that programs charge based on a child's age group. Conceptually, average price is more appropriate than median as an input to calculating costs. However, we chose to use medians, which are lower than averages, to be conservative in estimating usual costs. Observed averages may be more affected by outliers and measurement error than medians.

We calculated a weighted average of median prices charged based on cumulative enrollment of children across age groups and estimate that centers typically charge \$3.77 per hour per child. (see Table I). This hourly price is consistent with a full-time (at 40 hours/week), annual cost of about \$7,850 per child in 2012 dollars or \$9,700 in 2020 dollars.

The NSECE does not report price data for one-year-olds or five-year-olds. We group one- and two-year-olds together and assume the same price per hour and do the same for four- and five-year-olds. We weight the median costs by cumulative enrollment versus full-time equivalent enrollment by age group, which likely underestimates our cumulative price per child by giving more weight to school-age children relative to the amount of time they actually spend in care.

Price statistics in the NSECE reports are based on providers that charge parents for care and weighted to total number of providers (versus the size of a given program). The data in the reports do not allow us to account for differences in price by program sponsorship.

Home-based programs. The NSECE includes two general categories of home-based providers in the total home-based sample: listed and unlisted. Listed providers appear on state or national lists, generally meaning they are formally recognized as licensed, regulated, license-exempt, and/or registered. Unlisted providers do not appear on state or national lists, but are caring for children not their own for at least five hours per week. Unlisted providers are further disaggregated into "paid" and "unpaid" groups, with paid listed providers including those who receive payment for at least one child in their care.

TABLE I. HOURLY PRICE DATA FOR CENTER-BASED CHILD CARE PROGRAMS, BY AGE GROUP

Age group	Share of cumulative enrollment	Average hourly price	Median hourly price
< 12 months old	4%	\$7.80	\$4.40
1-2 years old	16%	\$7.00	\$4.10
3 years old	22%	\$6.20	\$3.70
4-5 years old, not yet in kindergarten	28%	\$6.10	\$3.60
School-age (including kindergarten)	30%	\$6.60	\$3.70

Source: NSECE Project Team, *Characteristics of Center-Based Early Care and Education Programs: Initial Findings from the NSECE*, and *Prices Charged in Early Care and Education: Initial Findings from the NSECE*.

We exclude home-based providers who are both unlisted and unpaid from our analysis. We further restrict the sample of listed home-based providers to include only those who are paid to care for children (estimated 115,000 nationally, 97 percent of all listed home-based providers in the NSECE). In addition, we restrict the sample of unlisted paid home-based providers to include only those who accept government reimbursement for care (which we use as a proxy for participating in CCDBG; estimated 128,660 nationally, 14 percent of all unlisted paid providers in the NSECE). Our final analytic universe includes a total of 243,660 listed and unlisted paid home-based child care providers.

Given the large number of unlisted, paid providers in the NSECE (more than 900,000 in total), excluding most of these providers generates a more conservative estimate of cost. We anticipate that the providers excluded largely include nannies, babysitters, and friends or family members who offer regular care. These providers are an essential part of the broader child care infrastructure, but they largely operate outside the “formal” system. We assume that relief funds are generally targeting child care providers who would have difficulty reopening when the crisis is over without interim financial aid. Because these caregivers

generally do not have the same degree of start-up costs as centers or formal family child care providers, we assume they will not require the same incentives or financial support to resume care after a pause due to the coronavirus crisis and do not include them in our analysis. Moreover, since these arrangements are often fairly informal, it would be difficult to verify that individuals were providing care for the purposes of administering relief funds if they have not been receiving subsidy.

The NSECE technical analysis reports indicate the range of hours of child care provided each week by listed and unlisted paid providers. We assume the same distribution in our analytic universe of 243,660. Ten percent of listed and 25 percent of unlisted paid providers are missing operating hours data. We assume providers with missing data are missing at random and re-allocate them in proportion to each category’s share among observed cases (see Table II). For the purposes of calculating total enrollment hours, we assumed that all providers reporting 20 hours or less of care each week were offering care for 12 hours.^a For the remaining categories, we conservatively assume the lower bound of each range. We estimate that listed and unlisted homes collectively provide a total of 46.7 million paid enrollment hours per week.

TABLE II. HOURS THAT CARE IS PROVIDED IN LISTED AND UNLISTED PAID HOMES

	Listed		Unlisted, paid		Weekly enrollment hours (to calculate total enrollment)
	Percent of total listed sample in NSECE	Percent of our analytic universe	Percent of total unlisted paid sample in NSECE	Percent of our analytic universe	
40 hours/week or more	83%	92%	36%	49%	40
36-40 hours/week	2%	2%	5%	7%	36
21-35 hours/week	3%	3%	17%	23%	21
20 hours/week or less	2%	3%	16%	21%	12
Missing	10%		25%		

Percentages may not add due to rounding. Source: Authors’ analysis of data in NSECE Project Team, *Characteristics of Home-based Early Care and Education Providers: Initial Findings from the NSECE*

^a Twelve hours is the rough middle between the minimum of 5 hours per week to be included in the NSECE sample and the maximum of 20 hours to be included in the category.

Listed providers report being paid to care for an average of 7.8 children while unlisted providers report an average of 3.2. We assume the same averages in our restricted sample, meaning listed paid providers care for an estimated 897,000 paid children in total and unlisted providers who receive government reimbursement care for an estimated 411,712 paid children in total.

The NSECE technical analysis reports also include the average and median hourly prices that home-based providers charge for infants (<12 months-olds), 2-year-olds (which we generalize to mean toddlers, 12 months-3 years old); 4-year-olds (which we generalize to mean

preschoolers, 3-5 years old, not yet in kindergarten); and school-age (including kindergarten). Price statistics in the NSECE reports are based on providers that charge parents for care and weighted to total number of providers (versus how many children a provider serves). We did not have enough information to generate a weighted average based on cumulative enrollment by age. We calculate a raw average of the median prices charged per age group, assuming homes are serving children in different age groups in roughly equal proportions. We estimate that listed homes typically charge \$3.05 and unlisted homes charge \$3.58 per child per hour (see Table III).

TABLE III. HOURLY PRICES CHARGED BY LISTED AND UNLISTED PAID HOME-BASED PROVIDERS, BY AGE GROUP.

Age group	Listed		Unlisted paid	
	Average	Median	Average	Median
< 12-month-olds	\$4.70	\$3.20	\$3.80	\$3.40
2-year-olds	\$4.50	\$3.00	\$4.40	\$3.40
4-year-olds	\$4.50	\$3.00	\$4.70	\$3.60
School-age	\$4.60	\$3.00	\$5.40	\$3.90

Source: NSECE Project Team, *Prices Charged in Early Care and Education: Initial Findings from the NSECE*.

Collectively, private center-based programs and home-based child care providers enroll children for an estimated total of 342 million hours per week, equal to roughly 9.8 million full-time equivalent (FTE; defined as 35 hours per week) children ages 0 through 12. Eighty-six percent of hours are provided by centers; 10 percent are with listed home-based providers; and 4 percent are with unlisted home-based providers.^b

Baseline estimates: typical weekly hours of care and hourly price per child

We use this information to calculate baseline or “business as usual” monthly costs to provide 342 million hours of care to 9.8 million FTE children each month using the following formula:

Baseline monthly costs = (Total Care Hours Weekly)[(Median hourly price in centers)(Share of hours in centers) + (Median hourly price in listed home-based)(Share of hours in listed home-based) + (Median hourly price in unlisted home-based)(Share of hours in unlisted home-based)] (4.2 weeks/month)(Inflation Factor)⁶

Baseline monthly costs = (342 million) [(0.86)(\$3.77) + (0.01)(\$3.05) + (0.04)(\$3.58)] (4.2) (1.24) = \$6.6 billion per month

From there, we deduct estimated federal monthly spending on child care through CCDBG assuming that this program already supports some of the providers in our sample. Using FY 2017 expenditure data for CCDBG, we find that states’ expenditures on direct services to families accounted for 74 percent of all spending. We apply this proportion to a rough approximation of FY 2020 allocations and estimate that states spend \$10.4 billion per year or \$642 million each month on direct services through CCDBG.^c Deducting this amount from our baseline monthly cost yields a net baseline monthly cost of \$5.9 billion.

^b Percentages do not add to 100 due to rounding.

^c Using FY 2020 discretionary amounts and FY 2019 mandatory and MOE amounts (the most recent data available). These estimates include the District of Columbia but not territories or tribes, since the NSECE data only reflect 50 states and DC. However, we advocate that relief funds account for and be accessible to territories and tribal communities.

Number of children in need of emergency care

The Center for Economic and Policy Research (CEPR) estimates that 11.37 million frontline workers have at least one child in the home.⁷ Additional data analyzed by CEPR for this brief further show that these frontline workers have an average of 1.8 children, or 20.8 million children of frontline workers in total.⁸ Estimates from CEPR may not be inclusive of workers in every industry designated as “essential” by states and the federal government; therefore this is a conservative starting point.

We assume that these children follow the age distribution of the broader child population such that 86 percent⁹ or 17.9 million are under the age of 13 and unable to care for themselves while their parents are at work. We further assume that two-thirds of those children have another parent, family member, or adult who can care for them. This implies 6 million children of essential workers (29 percent) need emergency care.

Increased costs of providing emergency care: Restrictions on group sizes and implications for staffing during the pandemic

Child care providers that remain open to serve the children of essential workers will likely incur additional costs per child beyond their usual operating expenses—mostly due to increased labor costs resulting from constraints on the number of children that can be in a classroom at a given time. While the Centers for Disease Control and Prevention (CDC) has not issued specific guidelines on group sizes in child care centers and homes,¹⁰ many states are restricting group sizes in emergency care settings in an effort to minimize the potential spread of coronavirus.^d For the purposes of this analysis, we assume that no more than 10 people are in a classroom or child care home at any given time, including adult caregivers.

Listed and unlisted home-based providers in the NSECE report serving an average of 7.8 and 3.2 children, respectively, for whom they are paid. In terms of staffing, most home-based programs are single-provider operations—just 40 percent of listed providers and 12

percent of unlisted providers report paying assistants to help them provide care.¹¹ This means that home-based providers’ business-as-usual arrangements are roughly consistent with social-distancing requirements. However, the fall in demand from non-essential workers and the geographic dispersion of the demand from essential workers means that any one provider may not reach full capacity. We assume home-based providers will provide emergency care at an average of two-thirds capacity, based on our analysis of a survey of home-based providers in Minnesota.¹² Some home-based providers may care for additional children for whom they do not receive payment (including their own), which we do not account for in our model. Under these circumstances, home-based providers may have to further reduce their paid capacity to meet safe group-size restrictions.

Restrictions on group sizes more significantly impact center-based providers, particularly large programs with multiple classrooms for preschool-age children. Centers typically staff classrooms with 2 or 3 teachers at one time, and class sizes can range from as few as 6 children to as many as 30, depending on the age of children and the state in which the center is located. We assume the national average of child-staff ratios for infants, toddlers, and preschoolers and apply the preschooler ratio to school-age classrooms.¹³ Further, we assume that, during the pandemic, centers cannot expand the number of rooms available but can close rooms.

For infants, business-as-usual is a child:staff ratio of 4:1 which remains consistent with social distancing requirements because 8 children plus 2 teachers does not exceed 10 people. So for N infants requiring emergency care, $N/4$ caregivers are needed, as before.

For toddlers, business as usual is a child:staff ratio of 8:1 with 2 teachers implying 18 people in a classroom, which exceeds social-distancing requirements. Providers can now operate with 8 toddlers and 1 teacher per room, however we assume 2 teachers are still required to support feeding and diapering needs under heightened safety precautions. So for N toddlers requiring emergency care, $N/4$ caregivers are needed rather than $N/8$ in usual times. This reduces the number of toddlers who can be served per room from 16 to 8.

^d To date, the authors are not aware of a data source that expressly compiles state actions on this front. We are aware of at least 14 states that have issued guidance restricting group sizes or encouraging smaller groups, but recommendations vary widely from state to state. In states requiring the closure of child care providers with exceptions for emergency care, guidance only applies to emergency care settings. In states that are still allowing programs to remain open, guidance appears to generally apply across the board. For example, as of April 14, 2020, Maryland is capping group sizes at 10, while Ohio caps group sizes at 6 children for programs providing emergency care. Virginia has not mandated closures of child care programs but is encouraging open providers to cap group sizes at 10, including adults. Conversely, South Dakota is allowing providers to take on additional children beyond their licensed capacity “because of family emergency or special circumstance.” For more details on state child care policy actions related to coronavirus, see The Hunt Institute’s list of child care state actions at <http://www.hunt-institute.org/covid-19-resources/state-child-care-actions-covid-19/>.

For preschoolers and school-age children, business as usual is a child:staff ratio of 11:1 with 2 teachers, implying 24 people in a classroom which exceeds social distancing requirements. Providers can now operate with 9 preschoolers or school-age children and 1 teacher per room. Therefore, for N preschoolers or school-age children requiring emergency care, N/9 caregivers are needed rather than N/11 in usual times. This reduces the number of preschoolers or school-age children who can be served per room from 22 to 9.

We assume centers normally operate in multiples of 5 rooms: an infant room (serving 8 infants), a toddler room (serving 16 toddlers), two preschool rooms (serving 44 preschoolers), and a school-age room (serving 22 school-age children). In sum, these 5 classrooms serve 90 children with 10 staff or 9 children per staff person and 18 children per classroom.

Under our assumed safe group-size restrictions, for each 5 rooms, centers can care for 8 infants with 2 staff, 8 toddlers with 2 staff, 9 preschoolers with 1 staff, 9 school-age children with 1 staff, and one flexible room that could serve another age group at that level or a mixed group. To maximize the number served at the lowest staff cost, we assume centers would use the flexible room to serve another set of 9 preschoolers or school-age children with 1 more staff person. This totals 43 children with 7 staff or 6.1 children per staff person and 8.6 children per classroom across the entire center, a 52 percent reduction in each center’s enrollment capacity with a 30 percent reduction in staffing levels.

TABLE IV. CHANGE IN RATIOS AND GROUP SIZES UNDER PANDEMIC RESTRICTIONS

Age group	Infant	Toddler	Preschool + School-Age
Rooms	1	1	3
Usual ratios			
Children: staff	4:1	8:1	11:1
Children: room	8:1	16:1	22:1
Staff:room	2:1	2:1	2:1
Ratios under group size restrictions			
Children: staff	4:1	8:2	9:1
Children: room	8:1	8:1	9:1
Staff:room	2:1	2:1	1:1

Increased cost of providing emergency care: Estimating changes in expenses for centers and homes

To estimate the change in cost to provide emergency care, we begin with the business-as-usual shares of expenses for center- and home-based providers in four different categories: labor, facilities, materials, and administration.^e For each category, we scale it up or down based on estimated changes in expenses.

TABLE V. CHANGES IN COSTS TO PROVIDE EMERGENCY CARE AS SHARES OF BUSINESS-AS-USUAL TOTAL PROGRAM OPERATING EXPENSES, FOR HOME-BASED PROVIDERS AND CENTERS

	Home-based providers		Centers	
	Business as usual	Emergency care	Business as usual	Emergency care
Labor	65%	85%	70%	94%
Facilities	5%	5%	9%	9%
Food and materials	10%	9%	7%	5%
Administration	20%	20%	15%	15%
Total relative to usual operating costs	100%	119%	100%	123%

Source for business-as-usual operating costs: Simon Workman and Steven Jessen-Howard, *Understanding the True Cost of Child Care for Infants and Toddlers*, Center for American Progress, 2018.

Labor. We assume that all working staff receive a 30 percent pay premium, regardless of setting. We assume that home-based programs are operating with usual staff, implying labor costs will be 130 percent of usual.

Meanwhile, centers' labor costs will be 135 percent of usual. We assume centers are operating with 70 percent of their usual staff, who receive 130 percent of their usual pay (equal to 64 percent of usual labor expenses). We assume labor costs will increase by an extra 15 percent to cover the cost of substitute staff who fill in should permanent staff need paid sick leave.^f The other 30 percent of staff are paid at 100 percent of their usual compensation and stand ready to fill in for sick colleagues.

Facilities. We assume no change in expenses related to rent, mortgages, utilities, or other costs related to facilities. While some programs may benefit from rent or mortgage deferrals, programs are not receiving that relief on a large enough scale to account for it here.

Food and materials. In an effort to minimize the spread of coronavirus, centers and homes are taking additional precautions above and beyond what is typically required to sanitize their facilities and materials and incurring additional expenses as a result. For example, recent CDC guidance recommends that child care providers screen all children for fevers or other signs of illness before entering the child care facility and that providers should wear masks and gloves if they can't keep 6 feet away from a child to conduct the screening.¹⁴ Providers are also reporting that cleaning equipment/supplies and certain food items are harder to find, resulting in them having to pay a premium to obtain certain goods. We assume that increased sanitation measures and higher prices raise the food and materials cost per child by 30 percent. At the same time, we assume that centers and homes are operating at lower-than-usual capacity. We assume homes are serving about two-thirds as many children, implying that materials costs are 87 percent of usual. We assume centers are serving about half as many children, implying that materials costs are 65 percent of usual.

^e We use Workman and Jessen-Howard, *Understanding the True Cost of Child Care for Infants and Toddlers* to identify "business-as-usual" operating costs for centers and home-based providers. We estimate business-as-usual-costs for centers by averaging the share of expenses across infant, toddler, and preschool classrooms. Workman et al.'s "base model" assumes 4 classrooms: one for infants, one for toddlers, and two for preschoolers. We assume an additional classroom serving school-age children in our model, which could potentially impact facilities costs for centers. We apply the family child care base costs to both listed and unlisted home-based providers in our provider universe.

^f Business-as-usual staffing costs include 5 paid sick days for classroom staff and the center director. They also include the cost of substitutes, paid at minimum wage, for up to 5 days while these workers are on leave. We assume that additional sick time and substitutes may be necessary under current conditions. Some providers will be eligible for federal tax credits to cover the cost of providing up to 10 days of mandatory paid sick leave to employees under the Families First Coronavirus Response Act. However, large providers with more than 500 employees are not covered under the law and providers with fewer than 50 employees qualify for the small business exemption. See NWLC, *Paid Leave in the Families First Coronavirus Response Act: How Child Care Providers Are Left Behind*, March 2020, <https://nwlc.org/resources/paid-leave-in-the-families-first-coronavirus-response-act-how-child-care-providers-are-left-behind/>.

Administration. We assume no change in administrative costs. While providers may have increased administrative work to deal with turbulence and disruption in new enrollments and funding vehicles, they will also likely have reduced marketing and hiring expenses. It is also reasonable to assume that potential administrative burdens associated with providing emergency care would vary widely from program to program, depending on type, size, staffing, etc. Absent reliable evidence, we assume administrative costs remain constant.

We conclude that home-based providers will operate at 1.19 times usual costs to provide emergency care, while centers will operate at 1.23 times usual costs.

Total cost to keep providers economically whole and provide emergency care

Our total cost estimates assume that providers that are not offering emergency care are closed, but “kept whole” or paid at 100 percent of normal operating costs. This allows them to continue paying their staff and other operational costs without charging families, so they can reopen when it is appropriate to do so. Providers that open to provide emergency care would be compensated for increased operating costs, as shown in Table V.

Our analytic strategy begins with the number of care hours required by essential workers with children under age 13. We estimate the cost of providing that care safely during a pandemic. Next, we estimate how many paid enrollment hours providers lose each week during periods of temporary closure and what it will cost to keep these providers economically whole.

As explained earlier, we estimate that 6 million children of essential workers need emergency care. We assume the distribution of enrollment hours by centers and homes will mirror the typical distribution, with 86 percent of care hours in centers, 10 percent with listed home-based providers, and 4 percent with unlisted home-based providers. It is important to acknowledge that states are quickly propping up emergency care and are using different strategies to provide care to families. Some are relying exclusively on centers, while others are including homes and centers as emergency care providers. Some are even using “pop-up centers,” after-school programs, and public schools. Since

there is no uniform approach, we assume that emergency care is exclusively offered by providers already in our provider sample and that homes and centers are used for emergency care in the same proportions that they are used under normal conditions. From a policy standpoint, we would consider any facility offering emergency care to be an extension of the child care system. But if states are not using existing providers in the system to provide emergency care, those providers would still need to be kept whole, which could increase total costs beyond what is estimated in this analysis.

We assume children will need emergency care for an average of 45 hours per week or roughly 268 million hours per week total. Data from CEPR shows that 78 percent of frontline workers are working full time and 22 percent are working part time.¹⁵ We assume that, under current conditions, many essential workers are likely taking on more hours than usual given staffing shortages and heightened labor demand in these sectors. We also assume that many workers will face longer commute times due to reduced public transportation schedules and that their usual care arrangements may not be operating, necessitating additional travel time. This likely makes 45 hours per week a conservative estimate.

We assume that 34 percent of the 6 million children of essential workers who require emergency care, roughly 2 million, were not receiving care from a provider in our universe before the pandemic. This includes an estimated 877,510 infants, toddlers, and preschoolers whose primary care arrangement was a parent, grandparent, other family member, or a nanny or babysitter in the child’s own home and whose care arrangement is no longer available. It also includes 1.2 million school-age children who previously had no care arrangement outside of K-12 school.¹⁶

The remaining 3.9 million children (66 percent) are assumed to have already been receiving care from a provider in our universe. Given the 9.8 million FTE children receiving care under normal circumstances, this leaves 5.8 million FTE children who were previously in care for 35 hours per week but are now at home with their parents or other caregivers. The providers who typically serve them would continue to be paid at their normal hourly rate for lost enrollment hours to cover lost revenue and enable them to maintain payroll and facilities.

We use this information to calculate total monthly costs to sustain the system during the pandemic using the following formulas:

$$\begin{aligned} & \text{Cost of emergency-care weekly in 2012 dollars =} \\ & \quad \text{(Emergency Care Hours Weekly)} \\ & [(\text{Center hourly price})(\text{Center cost premium})(\text{Center hours} \\ & \quad \text{share}) + \\ & \quad (\text{Listed home-based hourly price})(\text{Home-based cost} \\ & \quad \text{premium})(\text{Listed home-based hour share}) + \\ & \quad (\text{Unlisted home-based hourly price})(\text{Home-based cost} \\ & \quad \text{premium})(\text{Unlisted home-based hour share})] \\ & = (268 \text{ million}) [(\$3.77)(1.23)(0.86) + (\$3.05)(1.19)(0.10) + \\ & \quad (\$3.58)(1.19)(0.04)] = \$6.3 \text{ billion} \end{aligned}$$

$$\begin{aligned} & \text{Cost of relief care weekly in 2012 dollars = (Lost Care Hours} \\ & \quad \text{Weekly In Closed Providers)} \\ & [(\text{Center hourly price})(\text{Center hours share}) + \\ & \quad (\text{Listed home-based hourly price})(\text{Listed home-based hour} \\ & \quad \text{share}) + \\ & \quad (\text{Unlisted home-based hourly price})(\text{Unlisted home-based} \\ & \quad \text{hour share})] \\ & = (205 \text{ million}) [(\$3.77)(0.86) + (\$3.05)(0.10) + (\$3.58)(0.04)] \\ & = \$3.9 \text{ billion} \end{aligned}$$

$$\begin{aligned} & \text{Total monthly costs to sustain system = (4.2 weeks/month)} \\ & \quad \text{(2012-to-2020 Price Inflation Factor)} \\ & (\text{Cost of emergency-care weekly} + \text{Cost of emergency-care} \\ & \quad \text{weekly}) \\ & = (4.2)(1.24)(\$6.3 \text{ billion} + \$3.9 \text{ billion}) = \$10.2 \text{ billion per} \\ & \quad \text{month} \end{aligned}$$

Deducting regular public spending on child care to estimate new funds needed each month

Using this formula, we estimate that monthly costs equal \$10.2 billion—\$3.9 billion to keep programs whole and \$6.3 billion to provide emergency care. Because federal funding through CCDBG may already support some of these providers, we deduct \$642 million from the total monthly cost to account for an estimation of the current monthly spending on CCDBG,⁹ which results in a net monthly total of \$9.6 billion in new public funding.

We recognize that the recently enacted CARES Act included \$3.5 billion in funding to states through CCDBG. States can use these resources to provide continued payments to child care providers when they are closed or have lower enrollment than normal, to provide care for essential workers, and to provide funds for cleaning and sanitation to maintain appropriate health and safety.¹⁷ However, our analysis excludes these funds because, based on our analytic assumptions, the funds are sufficient to last less than two weeks if states spend the funding down to address the full scope of immediate needs.

Limitations

We do not capture the full scope of the child care market

This analysis estimates the amount of new public funding needed to sustain the child care system monthly through the coronavirus crisis. Our policy goals and, therefore, our analysis primarily focuses on the “formal,” private child care market—that is, privately operated centers and home-based providers—as well as a relatively smaller number of informal or FFN caregivers who interact with the child care subsidy system. It does not include all of the various types of providers that play an important role in supporting families. Nannies, babysitters, and family, friend, and neighbor caregivers outside of the subsidy system are also losing earnings and employment by no fault of their own. These workers also need income supports and other resources during the coronavirus crisis, even if not delivered directly through the child care system. Including support for these providers would substantially increase the scope of funding necessary to keep the system whole each month.

⁹ Based on FY 2017 spending on direct services and FY 2019 allocations to states and the District of Columbia.

We do not account for other sources of revenue and emergency relief available to child care providers

While we deduct regular spending for CCDBG from our estimates, we do not account for other funding sources that may support the child care providers in our sample, including Head Start and state pre-kindergarten programs. Collectively, state and federal spending on Head Start and state pre-kindergarten totaled \$18 billion in 2018.¹⁸ While these are important sources of revenue for many child care providers, we do not account for them in our analysis because we cannot confidently estimate what share of these funds would reasonably support our provider universe given how many schools and government agencies administer Head Start and state pre-kindergarten.¹⁹ Similarly, we do not account for state spending on child care through the Temporary Assistance to Needy Families (TANF) or state-funded child care assistance programs. Given the likelihood of state budget shortfalls in the coming months, states' ability to support child care without federal support during this time is likely to be limited.²⁰

In terms of emergency resources, child care providers may benefit from various forms of federal, state, or local relief that are not reflected in our analysis. The CARES Act included a number of provisions beyond the direct investments in CCDBG that could theoretically offset some

of the financial strain that child care providers are facing, such as forgivable Paycheck Protection Program (PPP) loans through the Small Business Administration (SBA).²¹ The PPP loans offered first come, first served, time-limited assistance and required significant know-how to navigate the application process. To date, there is no data source that would allow us to assess the extent to which these programs are supporting the child care sector,²² but the program was fraught with problems for child care providers and we anticipate that many faced barriers to successfully applying for assistance.²³ For the few programs that are able to obtain loans, the funds will likely be exhausted by the time significant federal relief for child care comes through.

The CARES Act also included significant expansions in unemployment insurance (UI), including increasing the value of UI benefits, lengthening the maximum length of time workers can receive UI, and widening eligibility to include people who are generally ineligible for state UI programs,²⁴ like self-employed family child care providers. While these benefits are certainly crucial for child care workers who are facing reduced hours or who have been laid off entirely, our policy goals are to help programs avoid laying off staff. As such, we do not rely on that mechanism to support providers in our analysis.

- 1 Child Care Aware of America, “State by State Resources,” <https://www.childcareaware.org/resources/map/>. Last accessed April 20, 2020.
- 2 National Association for the Education of Young Children, *From the Front Lines: The Ongoing Effect of the Pandemic on Child Care*, April 2020, https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/topics/naeyc_coronavirus_ongoingeffectsonchildcare.pdf.
- 3 For 2012, the Economic Census estimates that employers in the Child Day Care Services industry collected \$34.4 billion in annual revenue (Table 1b: 2012: NAICS = 6244 <https://www2.census.gov/services/qss/2013/qssq4-13pr.pdf>) and Census’s nonemployer survey estimated another \$9.5 billion in revenues from providers in this sector, mostly home-based providers (<https://www.census.gov/data/tables/2012/econ/nonemployer-statistics/2012-combined-report.html>), implying monthly revenue of \$3.7 billion per month in 2012 dollars and \$4.5 billion in current dollars. This may understate revenues for a number of reasons. For instance, organizations that provide child care as one of several functions or service lines may be categorized outside this NAICS code.
- 4 CLASP analysis of NSECE 2010-2012, NSECE Project Team (National Opinion Research Center). Microdata analyzed using the Inter-university Consortium for Political and Social Research (ICPSR) online analysis tool, <https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/35519>.
- 5 NSECE Project Team, *Characteristics of Center-Based Early Care and Education Programs: Initial Findings from the NSECE*, OPRE, November 2014, https://www.acf.hhs.gov/sites/default/files/opre/characteristics_of_cb_ece_programs_111014.pdf.
- 6 Prices in this sector rose 24 percent between January 2012 and January 2020. U.S. Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers: Tuition, Other School Fees, and Child Care in U.S. City Average, retrieved from FRED, Federal Reserve Bank of St. Louis, <https://fred.stlouisfed.org/graph?g=qJ97>; April 15, 2020.
- 7 Hye Jin Rho, Hayley Brown, and Shawn Fremstad, *A Basic Demographic Profile of Workers in Frontline Industries*, CEPR, April 7, 2020, <https://cepr.net/a-basic-demographic-profile-of-workers-in-frontline-industries/>
- 8 CEPR analysis of American Community Survey, 2014-2018 5-year estimates, for CLASP and NWLC.
- 9 See Annie E. Casey KidsCount, “Child population by age group in the United States,” updated August 2019, <https://datacenter.kidscount.org/>.
- 10 Center for Disease Control and Prevention, “Open Child Care Programs: Supplemental Guidance,” updated April 12, 2020, <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/guidance-for-childcare.html>. Last accessed April 13, 2020.
- 11 NSECE Project Team, *Characteristics of Home-Based Early Care and Education Providers: Initial Findings from the NSECE*, OPRE, March 2016, https://www.acf.hhs.gov/sites/default/files/opre/characteristics_of_home_based_early_care_and_education_toopre_032416.pdf.
- 12 The State of Minnesota surveyed providers of emergency care and published results: <https://mn.gov/mmb/childcare/families/>. We identified home-based providers by linking each provider to their type in licensing data. The two-thirds estimate used here is the observed total-licensed-capacity-weighted average share of capacity in operation across home-based providers.
- 13 Simon Workman, Methodology for *Where Does Your Child Care Dollar Go?* Center for American Progress, 2018, <https://cdn.americanprogress.org/content/uploads/2018/02/14040126/ChildcareDollar-Methodology.pdf>
- 14 Centers for Disease Control and Prevention, “Open Child Care Programs: Supplemental Guidance.”
- 15 Rho et al., *A Basic Demographic Profile of Workers in Frontline Industries*.
- 16 Data from the U.S. Census Bureau suggests that 46 percent of children ages 5 and younger, not yet in kindergarten, receive regular care from a relative (including parents, grandparents, or other relatives) or a non-relative (such as a nanny or babysitter) in their own home. Additionally, half of all school-age children have no regular care arrangement other than school or self-care. We therefore assume 46 percent of young children and half of school-age children who need emergency care were not receiving care from a provider in our sample prior to the pandemic. See Lynda Laughlin, *Who’s Minding the Kids? Child Care Arrangements: Spring 2011*, U.S. Census Bureau, April 2013, <https://www.census.gov/prod/2013pubs/p70-135.pdf>.
- 17 Stephanie Schmit, *\$3.5 Billion for Child Care in Coronavirus Package Is Not Enough: How States Will Fare*, CLASP, March 2020, <https://www.clasp.org/publications/fact-sheet/35-billion-child-care-coronavirus-package-not-enough-how-states-will-fare>.
- 18 Head Start funding increased by nearly \$1 billion between FY 2018 and FY 2020. Note some funds are used for program administration, monitoring, and other purposes. Administration for Children and Families, Office of Head Start, *Head Start Program Facts: Fiscal Year 2018, 2019*, <https://eclkc.ohs.acf.hhs.gov/about-us/article/head-start-program-facts-fiscal-year-2018>; Allison Friedman-Kraus W. Steven Barnett, Karin A. Gardner, et al., *The State of Preschool 2018*, National Institute for Early Education Research, 2019, <http://nieer.org/wp-content/uploads/2019/04/YB2018-Full-ReportR2.pdf>.
- 19 We account for some of this spending by removing government-run center-based programs from our analysis.
- 20 There are already news reports of reductions in local funding for programs for young children as a result of the coronavirus pandemic. See, for example, Alex Zimmerman and Christina Viega, “De Blasio proposes over \$221 million in NYC education cuts, including pre-K and school budgets,” Chalkbeat, April 7, 2020 <https://chalkbeat.org/posts/ny/2020/04/07/budget-cut-tk/>.
- 21 Rebecca Ullrich, *Small Business Loans for Child Care Providers Through the CARES Act*, April 3, 2020, <https://www.clasp.org/publications/fact-sheet/forgivable-loans-child-care-providers-through-cares-act>.
- 22 Loan distribution data issued to date is high level. For example, recent reports indicate that organizations in the health and social assistance sector—which includes child care—collectively received loans valued at nearly \$28 billion (roughly 11 percent of the total loan amounts that had been approved as of April 13). However, we do not have enough information to determine what share of these loans went to child care providers. For more information, see U.S. Small Business Administration, *Paycheck Protection Program (PPP) Report: Approvals through 4/13/2020*, April 14, 2020, <https://content.sba.gov/sites/default/files/2020-04/PPP%20Report%20SBA%204.14.20%20-%20Read-Only.pdf>.
- 23 Rebecca Ullrich, *Small Business Loans Aren’t the Answer for Child Care*, CLASP, April 8, 2020, <https://www.clasp.org/publications/fact-sheet/small-business-loans-aren-t-answer-child-care>.
- 24 National Employment Law Project, *Unemployment Insurance Provisions in the Coronavirus Aid, Relief, and Economic Security (CARES) Act*, March 2020, <https://www.nelp.org/publication/unemployment-insurance-provisions-coronavirus-aid-relief-economic-security-cares-act/>.