



A Disruption, Not an Interruption: The Impact of COVID-19 on Child Care in Iowa

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Abstract

Background In March 2020, when public health stay home orders began in order to halt the spread of COVID-19, child care as an industry was drastically and abruptly impacted. This public health emergency highlighted the weaknesses in the child care system in the United States.

Objective This study investigated the changes in operations cost, child enrollment and attendance, and state and federal support that occurred during the first year of the COVID-19 pandemic among both center-based and home-based child care programs.

Methods A total of 196 licensed centers and 283 home-based programs across Iowa participated in an online survey as a part of the 2020 Iowa Narrow Costs Analysis. This mixed method study utilizes qualitative analysis of response as well as descriptive statistics and pre- post comparison testing.

Results Analysis of qualitative and quantitative data revealed that the COVID-19 pandemic had a marked impact on child care enrollment, the operational cost of child care, the availability of child care, and a variety of other areas including staff workload and mental health. In many instances, participants shared that state and federal COVID-19 relief funds were critical.

Conclusion Although state and federal COVID-19 relief funds were critical for child care providers in Iowa during the pandemic, results suggest similar financial support will be necessary beyond the pandemic to sustain the workforce. Policy suggestions are made for how to continue to support the child care workforce in the future.

Keywords COVID-19 · Child care centers · Child care homes · Child care workforce · Federal COVID-19 relief · National COVID-19 relief

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The COVID-19 pandemic elucidated that it is almost impossible for the United States economy to operate without child care. An estimated 59% of children birth to age-5 participate in some type of non-parental care (National Center for Education Statistics [NCES], 2021). This estimation excludes the large number of families who need child care but are unable to find it due to child care deserts or shortages (Dobbins et al., 2016). The National Association for the Education of Young Children (NAEYC, 2002) states that high-quality early childhood education, including child care, can promote cognitive, language, physical, social, and emotional development. Early childhood education, including child care, creates an opportunity for children to develop positive relationships with caregivers; these relationships can help promote children's well-being and increases children's ability to learn while positively impacting overall development (Alharbi & Alzahrani, 2020; Britto et al., 2016).

Although high quality child care is known to be an important setting for early development, child care still lack recognition as professionals and the sector often struggles to exist as a profitable business. At times lauded as the “workforce behind the workforce” (National Conference of State Legislatures, 2021), child care providers were recognized as essential workers during the COVID-19 pandemic. However, even though seen as essential, child care seems to live at the cross-sectors of small business, education, and public services, with no real industry or government agency home. In the current study, through a mixed model approach, we investigated changes in cost, enrollment and attendance, and the role of state and federal support after the COVID-19 pandemic as reported by child care providers.

Types of Child Care in Iowa

There are a variety of models for how child care is provided. The following types of child care best capture the current offerings in Iowa—licensed center-based child care, registered family home child care, non-registered family home child care, and unregulated care (e.g., kinship care, nannies, family home child care with fewer than 6 children). Licensed, center-based child care (hereafter centers) describes care provided in facilities other than homes, that serve dozens of children. Centers are one of the most common types of child care program, accounting for 83% of child care for preschool-aged children and more than a third of children under age three in the U.S attend child care centers (NCES, 2021). Specifically in Iowa, centers are regulated by the Department of Health and Human Services and must meet a set of basic health and safety standards in compliance with the Reauthorization of the Child Care and Development Block Grant (CCDBG) in 2014 (Administration for Children and Families, 2022). In Iowa, there are approximately 1,500 centers, and across the state centers serve an average of 130,000 children a day (Iowa Department of Human Services, 2021; U.S. Department of the Treasury, 2021). Even prior to the COVID-19 pandemic, centers faced challenges in recruiting and maintaining a trained workforce (McDonald et al., 2018).

In Iowa, family home child care programs are called child development homes (CDHs) and will be referred to as such throughout this paper. CDHs are those programs caring for children in a home-based setting. In Iowa, CDHs are required to register with the state if they care for more than 6 children. These homes are also held to minimum health and

safety standards as required by CCDBG (Administration for Children and Families, 2022). About 2,800 CDHs were in operation in Iowa prior to the COVID-19 pandemic. CDH care is favored by parents in rural settings, as they typically are more locally available (Anderson & Mikesell, 2019). Prior to the COVID-19 pandemic, regulated home-based programs were already on the decline, with a 42% decrease in the number of regulated home-based programs nationally from 2005 to 2017 (National Center on Early Childhood Quality Assurance, 2020). A report by Bromer and colleagues (2021) suggested that system level challenges, such as low subsidy rates and increased regulatory requirements, and individual characteristics such as access to provider-to-provider peer supports, motivations for providing care, and other household income may explain who stays in the field .

State of Child Care Prior to the COVID-19 Pandemic

Even prior to the COVID-19 pandemic, the child care sector had many challenges. For example, there are documented child care deserts in large parts of the country where parents are unable to find any available child care, let alone quality childcare (Henning-Smith & Kozhimannil, 2015). As a result, parents often alter their work schedules to minimize child care needs or rely on family, friends, and neighbors to care for their children (Henly & Adams, 2018). The consequences of the lack of affordable child care are severe as caregivers are unable to find and maintain high quality employment that fits within their available child care arrangements (U.S. Department of the Treasury, 2021).

In addition, parents who qualify for state subsidy to help pay for child care face challenges finding providers who will accept it. While states provide various types of child care subsidy for families and children in need, reimbursements do not cover providers' expenses (Malik et al., 2018). Often, providers limit the number of children receiving subsidy that they serve (Malik et al., 2018). This perpetuates the cycle where the children in greatest need of child care are unable to access child care at all, let alone quality child care.

These challenges are compounded by child care programs' struggle to maintain a qualified, educated workforce due to low compensation. In fact, child care workers are some of the lowest paid service works in the country, receiving less pay than working in other sectors of the service industry like Target or Starbucks (Andrew & Newman, 2012; Bennett, 2020). An estimated 25–35% percent of the child care workforce turns over annually (Caven, 2021). Not only does this turnover in the workforce make it difficult to operate a child care center, but workforce turnover is also associated with negative outcomes for the children served by these programs (Casey Family Programs, 2017; Cassidy et al., 2018).

Child Care and the COVID-19 Pandemic

In March 2020, in an attempt to halt the spread of COVID-19, public health stay home orders and social distancing guidelines were swiftly implemented. Barnett and colleagues (2020) estimated that U.S. preschool enrollment dropped from 61% to just 8% of three- to five-year-olds by June 2020, predominantly through program closure but also through parent choice. About two-thirds of child care centers were closed during April 2020, with half of those remaining closed by April 2021 (Lee & Parolin, 2021), and families of color were much more likely to encounter child care closures. A system that was already strained prior to 2018 was profoundly disrupted and at risk of collapse (Eadie et al., 2021).

Federal and state governments responded to COVID-19 pandemic disruptions by offering unprecedented financial support for child care. Starting from late March 2020, the federal government provided financial support to businesses and directly to individuals through the Coronavirus Aid, Relief, and Economic Security Act (CARES Act). CARES funding primarily flowed into child care sector in three ways—targeted child care support, small business support, and financial support to individual families. In terms of targeted support for the child care sector, each state’s Child Care Development Fund (CCDF) lead agency was given additional funding through the CARES Act and flexibility in how to use it (Child Trends, 2021). The majority of states used funds for child care supports such as reimbursing providers who accept Child Care Assistance (CCA) even when children were absent, providing financial support to providers who adjusted to meet care needs of essential workers’ families, and covering all or part of family co-pay for those receiving child care subsidy (Bedrick & Daily, 2020). Small business support came through a second federal COVID relief initiative- the Paycheck Protection Program (PPP). The PPP loan program was designed to support small businesses in sustaining their payroll and other expenses early in the pandemic, with businesses with less than 500 employees identified as eligible and a provision for loan forgiveness under specified conditions (U.S. Small Business Administration, 2021).

In Iowa, CARES funding was utilized in a variety of ways. Child care providers who accepted subsidies were able to charge for an unlimited number of days the child was absent from care if the program remained open, as opposed to the prior limit of four days per month. Starting in April of 2020, programs who remained open were eligible for monthly stipend. Those that reduced tuition for children of essential personnel were eligible for additional bonus (Bipartisan Policy Center; 2021), resulting in distribution of \$20 million in Iowa through this program. Programs who had closed were eligible for a one-time stipend upon re-opening during April-June 2020. On July 1, 2021, the Iowa Health, and Human Services (HHS) utilized Corona Virus Response and Relief Supplemental Appropriations Act (CRRSAA) funds to contract with the Iowa Association for the Education of Young Children (IA AEYC, 2022) to expand the WAGES program, an education-based salary supplement, stipend, statewide. Initially, the WAGES stipend was only available in limited counties. PPP loans for small businesses were issued in Iowa to just under 800 child care programs in Iowa (Smith et al., 2021), which would account for approximately 18% of programs in the state. Regarding direct payments to families, it is difficult to estimate how this money was used; however, there is potential some was used to pay tuition to maintain child care for children. It is also possible that this money enabled some families to choose fewer working hours and keep children home. See Fig. 1 for a time line of COVID relief funding in Iowa.

Current Study

Child care uniquely lives at the intersection of education, social services, and the service industry of a capitalistic economy, not quite fitting within the funding models or regulatory structures of any of the three industries. A crucial, but already strained, system, child care faced significant disruption as a result of the COVID-19 pandemic. In the current study, we conduct secondary analysis on data collected for the state of Iowa Narrow Cost Analysis to examine the impact of the COVID-19 pandemic on child care in the state of Iowa. Through a mixed model approach, we investigated changes in cost, enrollment and attendance, and

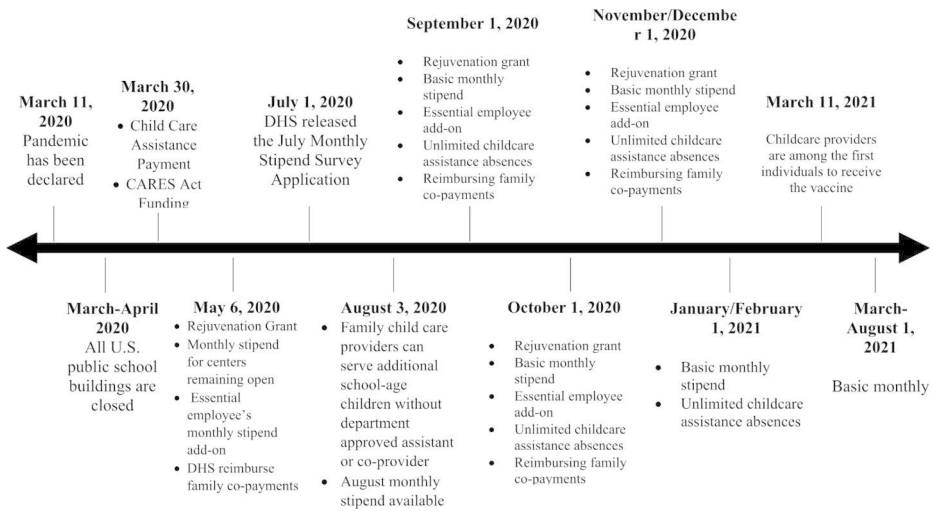


Fig. 1 Overview of State and Federal COVID-19 Relief in Iowa March 2020-August 2021

the role of state and federal support after the COVID-19 pandemic as reported by providers and explore similarities and differences in the experiences of center-based child care providers and CDHs.

Method

Data used for this study was from the 2020 Iowa Narrow Cost Analysis. The aims of the 2020 Iowa Narrow Cost Analysis were to determine the cost necessary to support compliance with regulatory requirements (including health, safety, quality, and staffing requirements) and determine the cost necessary to fulfill requirements for different levels within the Iowa Quality Rating System (QRS). Data relating to the impacts of the COVID-19 pandemic on child care programs were collected as a part of the narrow cost analysis.

Disclosures and Declarations

Data for this study were collected as part of the state Narrow Cost Analysis to fulfill federal requirements of Child Care and Development Block Grant. COVID-19 questions were added at the request of the HHS. Data was archived with the Iowa Integrated Data System for Decision Making (I2D2) on behalf of HHS. Authors requested and received de-identified data for use in this follow up study. Authors consulted with their university Institutional Review Board, and this study was deemed to not require review for research with human subjects because all data collection was completed and all data accessible to authors was deidentified. Authors declare a potential perception of conflict of interest as members of the team were contracted to collect the initial data. However, ethical safeguards included only collecting data needed by the HHS for their purposes as stated in the contract scope of work and archiving of all identifiable data and removal from authors’ access prior to beginning research related to secondary analysis.

Data Collection Procedure

Qualtrics online survey software was used to build and disseminate the surveys (see Appendix B for full surveys). Surveys were sent out in February 2021. Additionally, programs were asked to report on their staffing and enrollment in March 2020 and December 2020. After three email reminders had been sent, providers who had not yet responded were sent a short version of the survey asking them to provide total costs by category—salary and benefits, supplies, facilities, and outsourced services (e.g., cleaning company, accountant). Responses to both the original and short surveys have been combined and are presented here.

Recognizing that the 2020 budget year would be atypical due to the COVID-19 pandemic, additional COVID-19 related questions were added to the narrow cost analysis. Respondents were asked to report on their enrollment in both March 1, 2020, which was expected to better reflect their typical enrollment, and December 1, 2020, which might reflect attrition due to the pandemic and resulting economic situation. Respondents were also asked to report increased expenses due to the COVID-19 pandemic and state and federal regulations as well as the number of days the program was closed for reasons related to COVID-19 and if families paid tuition for those days. Open-ended opportunities to provide more information about the impact of COVID-19 on the program were provided.

Participants

A total of 196 licensed centers responded to the narrow cost analysis survey, for a response rate of 18.89%. A total of 283 CDHs were retained in the narrow cost analysis for a response rate of 12.77%. A total of 3,504 child care facilities were sent email links to the narrow cost analysis survey, including 1,038 licensed centers, and 2,466 CDHs and non-registered CDHs. A total of 182 centers and 45 CDH respondents were eliminated from the narrow cost analysis sample as they did not complete 60% or greater of the survey or did not have key information for this study, including cost information, and enrollment data for at least one time point. For the current study, all providers retained in the narrow cost analysis samples were included and any incomplete responses were marked as missing data. Non-registered CDHs whose information was on file with Child Care Resource and Referral were contacted to complete the narrow cost analysis survey; there were six respondents in this category who had both enrollment and cost data. However, these respondents have not been retained in this sample as non-registered CDHs do not have any minimum health and safety requirements. See Table 1 for the detailed response rates and Table 2 for information about the respondents.

Table 1 Total Response Rates

	Centers	Child Development Homes
Sent emails*	1038	2295
Complete Surveys “finished”	271	278
Surveys opened	487	450
Resent Short Survey*	864	2050
Completed short survey	107	60
>60% progress	196	287
Response rate	18.89%	12.50%

*Adjusted to remove failed and bounced back emails.

Table 2 Respondent Information

	Centers	Child Development Homes
Position of the survey respondent		
Director/Principal	179	---
On Site Administrator	14	---
Lead Teacher	2	---
Owner	26	---
Accountant/Bookkeeper	6	---
Location		
Rural	220	107
Urban	167	83
Participates in Child and Adult Care Food (CACF) Program		
Yes	88	159
No	72	64
Quality Rating System (QRS) Rating		
Does not participate	78	178
1	11	37
2	14	18
3	20	12
4	62	39
5	21	4
Accept Child Care Assistance Subsidy		
Yes	119	40
No	27	184

Note: Child Development Home Survey respondents were not asked to share their position as it was assumed that they were the owner

Participant Types and Iowa Quality Rating System

In Iowa there are four types of care: licensed center-based child care, registered CDHs, non-registered CDHs, and unregulated care. The last two categories are made up of providers who provide care in their home for less than six children and therefore are not required to register with the state. In the current study no Non-Registered CDH receiving subsidy responded.

Measures

Providers from each child care program responded to an online Qualtrics survey. Providers were required to identify their facility type (i.e. licensed center, CDH, or non-registered CDH) and geographical region (i.e., urban or suburban). Additionally, providers reported their operational costs as well as increase in costs related to the COVID-19 pandemic. Providers could respond to report monthly or annual costs; in the presented results all costs were converted to annual expenses. Providers were also asked to indicate, if applicable, the number of days they were closed due to the COVID-19 pandemic and how they handled tuition on the days on which they were closed.

COVID-19 Impact

The survey included two open-ended questions regarding the impact of COVID-19 on their program. Those questions were “What additional costs related to COVID-19 are you experiencing?” and “Is there anything else you would like to tell us about the cost of providing child care or about the impact of COVID-19 on your program”.

Analysis

This mixed method study included quantitative as well as qualitative analyses. A series of paired samples t-test were conducted to determine if there was a significant difference between enrollment pre- COVID-19 (March 1, 2020) and at the end of 2020 for each age groups (i.e. infant/toddler, preschool, and school-age) as well as for total enrollment. A paired samples t-test was also conducted to determine if there was a significant increase in operational costs between March and December 2020. The Bonferroni correction for multiple comparison was used (Dunn, 1961). Although the data were not normally distributed, nonparametric tests were not used as samples sizes were greater than 50 (le Cessie et al., 2020). Descriptive analyses were used to examine days closed due to the COVID-19 pandemic and how centers handled tuition on these days. List wise deletion was utilized for missing data.

Qualitative data were initially coded by the first three authors using continuous, open-coding to code all responses. The authors read all quotes and determined initial broad thematic codes. When a new code was identified, the researcher would then reread all responses to determine if any additional responses were related to the code. The first three authors then compared and discussed codes to organize them into the larger themes reported here. Once consensus on thematic codes was reach, the same three members of the research team again read all answers and coded them for themes. Coding across the themes was compared and any response that was coded by at least two coders was considered indicative of that theme. One researcher then read all text responses for a given theme and wrote rich summaries to capture the similarities and differences in the responses. These summaries were reviewed and discussed among the three team members before they were finalized. Note that a given text segment could be coded as relevant to multiple themes.

Results

Child care enrollment, operation cost, days closed, and financial support were compared between two periods, prior to, and during, the COVID-19 pandemic. Results are presented below, organized into the five themes drawn from the qualitative data. Quantitative results are reported for each type of program (centers and CDHs), followed by the qualitative provider responses.

Child Care Centers

Child Enrollment

An average child enrollment for centers who reported children enrolled was 70.93 children ($SD=67.81$; range 0-631) prior to the COVID-19 pandemic (March 1, 2020), and 59.48 children ($SD=52.65$; range 0-555) during the COVID-19 (December 1, 2020). Note that two respondents reported no enrollment for March 1, 2020, but enrollment for December 1, 2020; 14 respondents reported no enrollment for December 1, 2020 but did report enrollment for March 1, 2020. These centers were included in this analysis however, centers that reported no enrollment for both dates were eliminated from the analysis. Results from t-test revealed that total enrollment was significantly higher in March 2020 prior to the COVID-19 pandemic ($p<.001$). When enrollment was compared by child age group, we found the similar pattern of reduced enrollment for infant/toddlers ($p=.012$), preschool-aged children ($p<.001$), and school-aged children ($p<.001$), see Table 3.

Operation Costs

When asked to report the increase in costs due to COVID-19 childcare centers reported an average yearly increase of \$1776.01 ($SD=2971.90$). Increases ranged from \$0 yearly increase to a \$20,000 yearly increase. These values encompass costs related to meeting the health, safety, and regulatory requirements for operation during the COVID-19 pandemic and include expenses related to cleaning and sanitizing, additional staffing, materials for use by school-age children who were in care for more hours, and costs related to days closed

Table 3 2020 Enrollment by Child Age for Licensed Child Care Centers and Child Development Homes
Licensed Child Care Centers ($N=199$)

	Pre-COVID-19 (March 1, 2020)		During the COVID-19 (December 1, 2020)		<i>t(df)</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Infant/ Toddler	19.45 (0-217)	25.77	17.76 (0-231)	23.80	2.58(195)	0.012*
Preschool	28.87 (0-229)	26.67	24.64 (0-194)	21.51	5.42(195)	<0.001*
School-age	22.65 (0-320)	37.11	17.08 (0-130)	20.90	3.45(195)	<0.001*
Total Enrollment	70.93 (0-631)	67.01	59.48 (0-555)	52.64	5.02(195)	<0.001*
Child Development Homes ($N=271$)						
Infant/ Toddler	3.65 (0-16)	2.33	3.08 (0-12)	2.03	5.08 (253)	<0.001*
Preschool	4.43 (0-27)	3.46	3.75 (0-17)	2.85	4.34 (253)	<0.001*
School-age	2.85 (0-15)	2.83	2.43 (0-13)	2.49	3.68 (253)	<0.001*
Total Enrollment	9.36 (0-48)	5.49	7.90 (0-32)	4.20	6.10 (253)	<0.001*

Note. Two dates were requested for enrollment: March 1, 2020 (pre-COVID-19 pandemic) and December 1, 2020 (during the COVID-19 pandemic)

due to the pandemic. These increases in cost do not reflect the decrease in enrollment which childcare centers also reported. As would be expected, during the COVID-19 pandemic, there was an increase in the *per child per day* operations cost. Operational costs per child per day were significantly higher ($t(178) = -4.70, p < .001$) in December 2020 ($M=28.30, SD=45.63$) than in March 2020 ($M=22.78, SD=36.34$) prior to the COVID-19 pandemic. Although significant, this increase is to be expected as operational costs were spread across a smaller number of enrolled children in December 2020.

Days Closed

At the time of this investigation, 65% of centers reported having to close an average of 40.12 days total ($SD=31.78$) due to the COVID-19 pandemic, with individual centers closing anywhere between 1 and 140 days. In Iowa, there was not a minimum number of closure days required by law due to COVID-19. These presented numbers are the days which respondents reported closing due to COVID-19 related concerns. Of respondents who reported how tuition was handled when the center was closed, most centers (79.17%) did not require families to pay tuition and it was uncommon (3.33%) for families to pay full tuition for the days that the center was closed. In some cases (16.67%) families paid partial tuition on these days.

Child Development Homes (CDHs)

Child Enrollment

Findings from the CDHs showed that child enrollment prior to the COVID-19 pandemic (March 1, 2020) ranged from 0 to 48 children with an average of 9.10 ($SD=5.49$) children served, and 0–32 children as of December 1, 2020, with an average of 7.90 ($SD=4.20$) children served. Note that 15 respondents reported no enrollment for March 2020, but enrollment for December 2020; three respondents reported enrollment for December but not March. These providers were included in this analysis however, CDHs that reported no enrollment for both dates were eliminated from the analysis. Results from t-test revealed that total enrollment ($p < .001$) was significantly higher in March 2020 prior to the COVID-19 pandemic. When enrollment was compared by child age group, we found the similar pattern of reduced enrollment for infant/toddler enrollment ($p < .001$), preschool enrollment ($p < .001$), and school-age ($p < .001$), see Table 3. These results suggest that like the licensed child care centers, the COVID-19 had a significant impact on the enrollment of children in CDHs.

Operation Costs

When asked to report the increase in costs due to COVID-19, CDH's reported an average yearly increase of \$1,092.02 ($SD=1194.31$). Increases ranged from \$0 yearly to \$9,600 yearly. As with childcare centers, these values encompass costs related to meeting the health, safety, and regulatory requirement for operation during the COVID-19 pandemic and include expenses related to cleaning and sanitizing, extra expenses due to school-age children being in care more hours, and costs related to days closed due to the pandemic.

These increases in cost do not reflect decreases in enrollment. As observed for the childcare centers, CDHs also experienced an increase in the cost per child per day. Operational costs per child per day were significantly ($t(198) = -4.02, p < .001$) higher in December 2020 ($M = 24.80, SD = 26.17$) than in March 2020 ($M = 18.95, SD = 13.43$) prior to the COVID-19 pandemic. As with the childcare centers, this increase is to be expected as operational costs were spread across a small number of enrolled children in December 2020.

Days Closed

Due to the COVID-19 pandemic 30% of CDHs reported having to close one or more days. CDHs were closed for an average of 28.47 days ($SD = 41.32$) with days closed ranging from 1 to 210 days total due to the COVID-19 pandemic. As was observed with childcare centers, of the 67 CDHs who responded, the majority (82.26%) did not require families to pay tuition. For the CDHs who responded, 16.13% required families to pay some or partial tuition, and only 1.61% required families to pay full tuition when close due to COVID-19.

Themes Emerging from Open-ended Responses

Theme #1: Child Enrollment

Decreased enrollment was a concern highlighted by center and CDH respondents. Both reported an initial steep drop in enrollment or attendance, citing parents' ability to work from home and thus keep children home. Centers reported starting to see rebounding enrollment late in 2020, but still only reaching 2/3 to 3/4 of previous enrollment. Perhaps more stressful for many was seeing lower enrollment for the following school year than was typical. Several reported low enrollments as jeopardizing their ability to stay open, saying, "Enrollment is low, there has been a loss of revenue that has hindered our viability. We are on the edge of closure."; "Enrollment has been our biggest factor. Barely breaking even with our current enrollment."; and "We are low on enrollment which affect our cash flow and month to month continues to [be a] struggle and be unknown."

CDH providers reported similar challenges with building enrollment back up. One provider reported, "I lost 4 kids all at once and it took me most of the year to become full again!" suggesting that recovery is a slow process. Another reported closing due to age and health concerns, anticipating re-opening once they were able to be vaccinated. They reported, "We are hopeful all our families come back, but we know several have made other arrangements, and it may be hard to switch back." A few CDHs also reported more dynamic enrollment, such as changing their schedule to meet increased demands on parents who were essential workers or who were alternating two weeks on/two weeks off schedules, as well as no longer taking drop-ins. See Tables 4 and 5 for the percentage of CDH and center respondents who endorsed each of the five themes.

Theme #2: Days Closed due to COVID-19

As evident in the ranges of days closed in the quantitative data, providers report regarding closures were varied. Among CDHs, respondents talked about 3 types of closures (1) initial shutdowns in March 2020; (2) temporary closures due to having COVID-19 or needing to

Table 4 Percentage of Child Development Homes Endorsing Qualitative Themes.

	N	Child Enroll- ment %	N	Non-fi- nancial Costs %	N	Days Closed %	N	In- creased Costs %	N	Finan- cial Supports %
Total Responses	30	45	18	27	14	21	44	67	11	17
Narrative Responses	25	38	15	23	12	18	37	56	8	12
COVID-19 Responses	5	7	3	4	2	3	7	11	3	5

Note: Columns list the qualitative themes and rows displays the total number of responses, the number of narrative responses, and the number of narrative responses mentioning COVID-19.

Table 5 Percentage of Centers Endorsing Qualitative Themes

	N	In- creased Costs %	N	Non-fi- nancial Costs %	N	Days Closed %	N	Child Enroll- ment %	N	Finan- cial Supports %
Total Responses	56	63	23	26	15	17	32	36	29	32
Narrative Responses	50	56	22	25	12	14	29	33	26	29
COVID-19 Responses	6	7	1	1	3	3	3	3	3	3

Note: Columns list the qualitative themes and rows displays the total number of responses, the number of narrative responses, and the number of narrative responses mentioning COVID-19.

quarantine; and (3) being on the brink of permanent closure. Although fewer responses were coded for the latter, each is the story of a small business owner’s financial loss and several families’ loss of child care. One respondent shared that, due to age and health, they closed from March 2020 until they were able to receive vaccines, nearly a year later. Others shared that the stress and financial strain had them near permanent closure, “I almost quit this past summer because having children out on quarantine and bringing them back was stressful for everybody and I did not get paid for when children were gone.” Similarly, “If it had not been for my wife having a decent paying job I would have been forced to close.

Theme #3: Increases in Cost due to COVID-19

Although increased costs related directly to COVID-19 were difficult to tease apart in the quantitative data, and likely varied from the early days of expensive toilet paper to the late 2020 challenges in the food supply chain, centers were quick to identify additional staffing hours as a key increased cost. Increased staffing costs to cover quarantines and increased sick days (for things teachers would not previously have called in for), maintaining groups of children even when ratio would typically allow for combining classrooms, and covering arrival and departure protocol accounted for some of the increased costs. Several providers also reported the dual challenge of both increased cost and increased use of personal protective equipment (e.g., gloves) and cleaning supplies. Though only a small number, a couple of providers felt very strongly that the increased unemployment benefits available to those not working made it difficult to bring staff back and/or hire staff, and that this was also driving up wages and thus increasing costs. Several providers reported paying staff while not charging families during an initial shut down or later quarantines, and even when open it was hard to manage the increasing costs without increasing tuition. As one provider

simply put it “I find it hard to balance affordable childcare and offering my employees a livable wage.” Financial costs came not just from increased expenditures, but reduced income. Reduced income was the primary source of financial strain identified by CDHs. One shared, “My income was down 39% from 2019 to 2020.” Many also commented on the increased cost of supplies and increased costs related to caring for and feeding school-age children for full days when tuition had been set for only the after-school hours.

Theme #4: Non-financial Costs

Providers were not asked directly about spending more time working, but CDH respondents reported their own time as an extra cost, particularly extra time spent on cleaning and on planning for school-age children, who were now attending for the full day. As one provider put it, “The biggest impact is when you break down my hourly pay. There is so much more time spent on nights and weekends (when my program isn’t open) on planning, cleaning, and communication with enrolled families.” Whereas center respondents reported the cost of extra work in terms of wages for employees or extra expectations on teachers during work time, CDHs reported this extra work as more time spent working.

Emotional costs were also reported. “The staff are mentally exhausted and there seems to be no end in sight.” The emotional toll of the pandemic on providers seems to range from the extra work of cleaning and thinking through changing protocols to the fear of keeping centers open. Several providers just made declarative statements such as, “This has been a very difficult year.” For some, the concerns for their own safety and being responsible for the safety of children in their care when so little was known early in the pandemic were also extremely stressful. Most responses to this item mentioned the stress of an unpredictable financial situation, but several also mentioned stress regarding catching or spreading COVID-19 and stress related to the precautions they were taking. As one provider put it, “Not being able to hug our own grandchildren that live 40 miles away but yet hug children in our care has also been an anxiety during this pandemic for us.”

Theme #5: Financial Supports

Numerous program and policy changes came out of the Iowa HHS and other agencies to support child care providers during the COVID-19 pandemic. Providers were not directly asked about the impact of state support on their program; however, many commented on it. One center respondent reported, “If we weren’t receiving the monthly stipends, unlimited absences for CCA and the PPP we would not be open. This has been a very difficult year.” For centers, financial supports came primarily through state and federal efforts. A few mentioned funding from the CARES Act and PPP, while many emphasized the critical role of CCA reimbursements for an unlimited number of absences, allowing centers to receive income and keep spots for children receiving subsidy. Many emphasized monthly the vital role of stipends sent from the state. Similarly, multiple CDH respondents mentioned two main sources of financial support—CCA reimbursements and monthly stipends. CCA reimbursements were reported as particularly helpful in offsetting full-day costs for school-age children and were also a source of stability with providers able to claim unlimited absences, meaning they could be paid even if children were kept home for quarantine or other reasons. The monthly stipends also lent stability. Many respondents from both types of pro-

grams stressed the importance of ongoing supports like these to help stabilize, build up, and improve child care in the state.

Discussion

COVID-19 Impact on Providers

Given the ubiquitous impact of the COVID-19 pandemic and related public health measures on child care, this mixed-methods investigation of regulated child care in Iowa highlights similar and unique impacts on center-based and CDH-based child care. Both licensed childcare centers and CDHs had significantly fewer children enrolled in December 2020 as compared to early March 2020. This pattern was observed across all age groups. Qualitative responses revealed that there was a dramatic drop in enrollment at the beginning of the pandemic and that this drop was long-lasting. Initial closures and limitations to group size, as a response to the public health crisis, help explain initial drops.

At the time of data collection, almost a year since the start of the pandemic, providers shared that they are still struggling to increase enrollment. Both types of providers shared that increased ability for parents to work from home and concerns about health impacted enrollment. Licensed child care centers and CDHs shared that decreases in enrollment jeopardized their ability to stay open. According to Child Care Aware's annual survey (Child Care Aware of America, 2021), child care supply was already on the decline prior to the pandemic, with a greater loss in registered CDHs. Child Care Aware estimates a 9–10% decrease in regulated child care spots in 2020 alone, without indication the trend has reversed. Further, in addition to initial closures and decreased enrollment, some programs of both types had to temporarily suspend services due to COVID-19 related reasons. On average, CDHs had closed for more than 32 days and licensed centers more than 40 days. In almost all cases, families did not pay tuition for these closed days. Not only did providers lose money to both closures and decreased enrollment, centers and CDHs also reported increases in operational costs due to the COVID-19 pandemic. These costs encompassed the need for material items as well as increased employee wages due to extra work. Finally, providers shared that cleaning and safety protocols required the purchase of additional cleaning and sanitizing materials, and that these items were more costly than usual and more difficult to find. Childcare centers and CDHs differed in how additional costs related to extra work impacted their businesses with centers having to hire more employees or pay for more hours and CDHs having to spend their personal unpaid time working.

Outside of the negative impact on time and finances, providers reported COVID-19 impact in other areas, including mental health and relationships with families. These were unexpected, given that the question prompts and the survey itself focused on the financial aspects of providing care. We interpret this as an indication of just how salient and urgent these concerns were. Providers shared that they and their staff were mentally and physically exhausted and that there seemed to be no end in sight. In addition to the physical demands of enhanced cleaning protocol, staff was concerned about their own health and safety as well as, the health of the children in their care. Even more than the increased physical demands, the emotional and mental health demands of providing quality, safe, childcare wore down providers.

Differences in Experiences due to COVID-19

Much of what center and CDH respondents shared was similar; however, there were some differences in experiences. As identified above, how extra work was absorbed differed in the two settings. The threat of closure also seemed to differ. Two areas where the experiences greatly differed between centers and homes were staffing concerns and working with families.

For centers, staffing was a major concern both in the moment and looking to the future. This was not an evident concern for CDHs, likely because very few reported having staff pre-pandemic. Early in the pandemic, center concerns, in many cases, were driven by the need for more staff coverage, which in turn had financial impacts of increased wages/overtime and emotional impacts of increased stress and concerns about burnout for staff who were working extra-long days. The need for more staff coverage reportedly came from three COVID-related policy changes—smaller group sizes, not combining groups (such as at the end of the day when individual classrooms dip below ratio), and parents/families not being permitted in the centers. The latter two policies required more individual adults to be involved in the running of the center, particularly at the beginning and end of the day when centers are often staffed the lightest. Additionally, providers reported needing to have more staff on their roster in case they needed to cover individual quarantines or absences, but to do this they either had to reduce individual staff hours or pay out more hourly wages. In contrast, CDHs did not report increases in cost due to staff time but did report their own time as an extra cost. CDHs reported that because of the COVID-19 pandemic, they often spent more of their own personal time cleaning, sanitizing, and communicating COVID-19 safety protocols. A second difference came in experiences working with families. CDHs responses generally struck a tone of partnership with families. For example, one provider shared:

I almost quit this past summer because having children out on quarantine and bringing them back was stressful for everybody and I did not get paid for when children were gone. My daycare parents wanted me to stay so they helped me rewrite my policies and now I get paid leave if I have to take time off or if parents do so my family is not financially burdened.

In this and other examples, CDHs tended to report feelings of solidarity and support with their families. Center responses were somewhat split. About half of those who commented on families shared that families were being supportive and understanding and the center staff were proud to support families. As one provider put it, “We did survive, though, and my staff and I are proud to be essential for our parents and families.” However, other center providers commented on increased challenge in communicating with families, disagreements about if and how much families should pay when classrooms or the center closed, and the idea that some parents are still weary of bringing their children back to group care settings. “It will take time to rebuild confidence in some families about leaving their child in a preschool program. This is a disruption, not an interruption, and we will be feeling the effects of this financially for some time.”

State and Federal Support

Although respondents focused on the impact of the COVID-19 pandemic on enrollment, days open, costs of care and staff and time commitments, there were multiple responses highlighting the important role of state and federal responsiveness to provider needs. Both center and CDH providers agreed that the various program and policy changes that came out of the Iowa HHS and other agencies to support child care providers during the COVID-19 pandemic helped them keep their doors open. One center provider shared "... stipends, unlimited sick days, and copay coverage helped a lot during this time. We are a center with 90% of our kids on CCA." This sentiment was also shared by a CDH provider who shared "I got registered just in time for the pandemic and it's been nice to be able to help families out who needed child care while schools were closed, but it's been hard turning others away mostly due to the child being a certain age. The stipends have helped out tremendously!" Although not asked directly about these supports, the fact that both types of providers mentioned COVID PPP, the availability of CARES funds, and associated CCA reimbursement rates indicated that these COVID-19 relief policies had their intended effects of keeping child care open and available.

Going Forward

In many aspects, child care in the United States is a keystone that holds the economy together by providing the "workforce behind the workforce" (National Conference for State Legislatures, 2021). The pandemic dramatically and publicly highlighted the need for accessible high-quality child care (Kalluri et al., 2021). Federal and state emergency pandemic funding helped to stabilize and keep child care available during the pandemic. While many respondents praised this effort, respondents from both care centers and CDHs stressed the importance of ongoing supports like these to help stabilize, build up, and improve child care in the state overall. One provider shared:

We keep our rates as low as we can to help working parents find great child care, and even though we keep our rates lower than most other daycares near us the CCA rate is still much lower than our rate. The CCA rate needs to be raised for all centers to encourage more spots to be available to children on CCA. And the CCA rate also needs to take into account that most centers need to compete for employees with places like Walmart and Target, who pay \$15 an hour, centers need to be able to pay their employees a livable wage.

It is clear, that federal and state pandemic supports sustained the childcare workforce for the time being, acting as a stopgap measure. However, unless long-term supports are put into place, child care providers, and by proxy families who rely on child care, are going to continue to struggle. We now discuss specific policy recommendations to stabilize and enhance the child care system in Iowa and across the U.S.

Workforce Retention

Workforce retention has been an ongoing challenge to child care, with an estimated 1/3 of the workforce turning over annually and a negative impact from this turnover on the well-being of the enrolled children and other care providers (Cassidy et al., 2018). Since the COVID-19 pandemic began, all states have enacted, at least temporarily, programs to retain child care providers (Bedrick & Daily, 2020). Although critical to keeping child care open during the initial crisis, more permanent workforce support programs are necessary for long-term success. The WAGE\$ program, a salary subsidy program to promote retention within programs, expanded during the pandemic and has proven to be an asset to the workforce. Iowa implemented WAGE\$ statewide in July 2021. In the first six months of statewide implementation (all 99 counties, up from 38 counties), the program has seen a 100-fold increase in participation (Iowa Association for the Education of Young Children [IA AEYC], 2021). Further, the attrition rate of the first half of the fiscal year 2022 WAGE\$ participants is down to 4% (IA AEYC, 2021). Similar work force retentions programs such as the Retaining Early Educators through Attaining Incentives Now (REETAIN, 2022) in Minnesota and the implementation of the WAGE\$ program in North Carolina (T.E.A.C.H. Early Childhood National Center, 2015; Child Care Services Association, 2021) have proven effective in lowering staff turnover and increasing workforce stability. Taken together, results from both the pre-pandemic R.E.E.T.A.I.N. program and the pandemic-response increase to the availability of the WAGE\$ program demonstrate the potential of wage enhancement stipends to stabilize the child care workforce.

Subsidy Increase and Flexibility

An additional policy implication is to address the shortfall of child care assistance subsidy programs. Respondents to this study described the benefit of increased flexibility in reimbursing days for which a child was not present, but their spot was held for them (e.g., sick days). They also articulated the short fall of the reimbursement rate. Current federal recommendations to the CCA lead agencies is to set rates at the 75th percentile of market rates in the state (Department of Health and Human Services, 2016). However, even this recommendation sets up a system discouraging providers who face the highest costs from taking children with subsidies. Our findings from these respondents suggest that the cost of providing care in centers with the highest quality rating is double that of the lowest quality ratings when considering the per-child-per-day cost. Similarly, the cost of providing care in the highest-quality homes is nearly 1.5 times that of the lowest-quality rated homes (Iowa Department of Human Services, 2020). A 2019 needs assessment for the state indicated 21% of respondents who did not accept subsidy would consider doing so if rates were increased (Early Childhood Iowa, 2016). Iowa implemented tiered reimbursement rates in 2019, in an attempt to incentivize higher quality and participation in the state quality rating system, and increased rates in 2021. Although the pandemic-response policy permitting providers to reimburse an unlimited number of days for which a child was absent has expired, the state did increase the number of reimbursable “sick” days from four to six per month. Basing reimbursement on enrollment, as opposed to days attended, would provide additional stability for child care centers and CDHs who accept subsidy.

Limitations

The current study serves as an example in one state of how COVID-19 impacted the child care system and what can be learned from COVID-19 response policies to enhance the child care system going forward. However, data collection and policy review were limited to the state of Iowa. Although our response rates were in line with other state narrow cost analyses (Commonwealth of Massachusetts, 2018), it is possible that our limited response rate may mean the highest-need providers did not respond. Of note, only six providers who are considered “unregulated” (i.e., care for less than 6 children and are not registered with the state) responded. This is an important area of future study as these programs are often providers which serve the highest need populations. Further, there may be bias in which programs responded to the survey. This could over-emphasize the struggles of programs with those who have faced the most challenges being the most motivated to share their experiences. Alternatively, bias in response could under represent experiences of the programs most drastically impacted by COVID-19 if these providers were no longer operating and thus less inclined to participate in study efforts related to child care.

There is also potential bias in the information reported. Participants may have over or under reported expenses, and this risk is exacerbated by the extensive nature of a narrow cost analysis where questions probe not just overall operating cost, but details related to cost. Attrition between surveys opened and those completed may reflect lack of detailed records to respond to these specific cost questions. In addition, we acknowledge that this study did not set out to ask about the impact of COVID-19 relief policies, but the general cost of child care related to the 2020 Iowa Narrow Cost Analysis, and thus the results and conclusions drawn are taken from responses related to relief policies that providers gave in response to cost and broader COVID-19 impact related questions.

Conclusion

The pre-pandemic challenges associated with child care in the state of Iowa were heightened by the COVID-19 pandemic. Child care centers and CDHs reported significant increases in operational costs associated with the COVID-19 pandemic and significant decreases in enrollment across all age groups. Almost all respondents (centers and CDHs) had to close days due to the pandemic and most providers did not require parents to pay tuition on these days. Qualitative analysis of responses from providers also revealed that there were additional COVID-19 challenges, including increased time demands due to cleaning, mental health impacts on directors and staff, increased workforce turnover and low retention, and the positive impact of state and federal COVID-19 relief funds.

The responses of child care providers in the state of Iowa during COVID-19 regarding state and federal support to stabilize and enhance child care illuminate both in-the-moment challenges and future opportunities for workforce support. Specifically, the growth of the WAGES program in Iowa has already demonstrated positive results. However, at this time, the funding is not guaranteed going forward. One policy implication of our study is that WAGES should be continued and expanded as a wage enhancement program to stabilize the workforce. Second, the ongoing efforts to increase CCA subsidy rates need further investigation. Future research should address the access to high-quality child care for young chil-

dren facing the most risk factors to their development and examine how subsidy rates might be adjusted to incentivize high-quality providers to accept children with CCA subsidy.

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