



CHILD CARE
CRISIS

Regulation and the High Cost of
Childcare in Minnesota

MARTHA NJOLOMOLE • ECONOMIST



Martha Njolomole is an economist at Center of the American Experiment. She is a graduate of Troy University in Alabama, where she earned a Master of Arts in Economics. Her upbringing in Malawi, a developing country, spurred her interest in researching the social and economic advancement of economically disadvantaged people. Martha's recent work includes analyzing the impact of microfinance on entrepreneurship, policy prescriptions for institutional reform in developing nations, and examining the impact of legislative proposals on economic freedom in the United States.

Center of the American Experiment's mission is to build a culture of prosperity for Minnesota and the nation. Our daily pursuit is a free and thriving Minnesota whose cultural and intellectual center of gravity is grounded in free enterprise, limited government, individual freedom, and other time-tested American virtues. As a 501(c)(3) educational organization, contributions to American Experiment are tax deductible.

**Bulk orders of this publication are available by contacting
Peter Zeller at Peter.Zeller@AmericanExperiment.org or 612-338-3605.
8421 Wayzata Boulevard ★ Suite 110 ★ Golden Valley, MN 55426**



JUNE 2022

Childcare Crisis

Regulation and the High Cost of Childcare in Minnesota

CONTENTS

Executive Summary	1
Introduction.....	2
Cost	3
Shortage.....	8
Low Pay	11
Why the Childcare Crisis is Bad for the Economy	12
COVID-19 Worsened the Crisis.....	14
What Explains the Crisis.....	16
Report Findings.....	20
What these Findings Mean for Childcare	27
Conclusion.....	34
Endnotes	35

Executive Summary

- » Minnesota is one of the most expensive states for center-based childcare. In 2019, the average family in Minnesota paid over \$16,000 to keep their infant at a day care center for the whole year. Compared to the rest of the country, Minnesota had the sixth highest annual cost for center-based infant care. And for 4-year-olds, the average family paid over \$12,000 for center-based care making Minnesota the seventh most expensive state for center-based care for that age group.
- » Childcare is also expensive after controlling for the level of income. In 2019, Minnesota families with state median household income paid nearly 22 percent of their income for center-based infant care — the fourth highest rate in the country.
- » In addition to high costs, Minnesotans are plagued with a shortage of childcare slots. The average family in Minnesota lives in a location where there are nearly two children for every slot of licensed capacity within their vicinity. Shortage is especially acute in greater Minnesota due to home-based providers exiting the market.
- » Differences in the cost of living fail to explain why childcare is more expensive in Minnesota compared to most states. Minnesota has a lower cost of living compared to the national average, meaning that it is not an expensive state. Moreover, the cost of childcare in Minnesota is higher than that of nearly 20 other states that have a higher cost of living than Minnesota.
- » Other factors like age of children, type of providers as well as the economics of the childcare industry are universal among all states. These factors do not explain why childcare is more expensive in Minnesota compared to most states.
- » Instead, state differences in cost of center-based care are mainly explained by differences in state regulation. More specifically, states with stricter staff-child ratios and group size limits as well as more stringent hiring and training requirements — like Minnesota — are generally plagued with higher prices for center-based care.
- » Report findings estimate that reducing the number of infants allowed per caregiver by one — i.e., making the ratio stricter — raises the cost of infant center-based care by \$2,800. And reducing the number of 4-year-olds allowed per caregiver by one raises the cost of center-based care for 4-year-olds by about \$450.
- » Furthermore, requiring teachers to have a high school diploma raises the cost of center-based care by over \$1,900 for infants and by over \$1,300 for 4-year-olds. These costs are tripled when teachers are required to have a bachelor's degree or more.
- » Expanding public assistance programs is unlikely to address the root cause of the crisis but would transfer costs to taxpayers. Moreover, subsidies and other public early childhood education programs raise costs, restrict choice, fail to meet parental preferences, and are often associated with negative outcomes among children that use them.

Introduction

A crisis has been brewing around the country — parents are having a hard time accessing affordable high-quality childcare. From high costs to critical shortages, parents cannot catch a break when it comes to childcare. Unfortunately, they are not the only ones suffering. Businesses report trouble attracting and retaining working parents and face reduced productivity when workers constantly miss work because they cannot find childcare. According to a 2017 report by Child Care Aware,¹ during a six-month working period, 45 percent of working parents miss work at least

once due to issues with childcare.

Additionally, kids who cannot access high quality childcare miss out on development programs that ready them for school. And despite the high costs of childcare, providers are rarely profitable and childcare workers remain among some of the lowest paid workers in the country.

The lack of high-quality, affordable childcare is an issue plaguing every state in the country, but because of excessive government regulation, Minnesota's childcare problem is one of the worst in the nation. ■



Cost

According to Child Care Aware,² parents in the United States spent an average of \$11,836 in 2019 to send their infants to day care centers. For a family with two children — one infant and one 4-year-old — the average cost to keep both kids in a center was approximately \$21,460. In Minnesota, however, the cost was much higher.

Parents in Minnesota paid on average \$16,164 — or \$1,344 per month — to keep an infant in a day care center and over \$28,000 for both an infant and a 4-year-old.

When compared to other states, Minnesota was the sixth most expensive state for center-based infant care in 2019, behind only Washington D.C., Massachusetts, California, New Jersey, and Connecticut. Commensurate with income, Minnesota families with state median household income paid nearly 22 percent of their income on center-based infant care — the fourth highest rate in the nation. The story is no different when it comes to toddlers and preschoolers.

And while home-based childcare centers — or family childcare providers — who usually work out of their own homes and are only allowed to take care of 10 or fewer children, are less expensive compared

to day care centers, they are also unaffordable. The U.S. Department of Health and Human Services (DHS) defines childcare as affordable if it does not exceed seven percent of household income. According to that threshold, Minnesota parents, regardless of the age of their child or type of care, pay significantly more than seven percent of their income with center-based care being the more costly option.

The high cost of childcare is a major problem especially for low- and middle-income families since childcare takes up a much bigger proportion of their income. A single-parent family at the median income level in Minnesota spends two-thirds of their wages to enroll an infant in a center for one year.

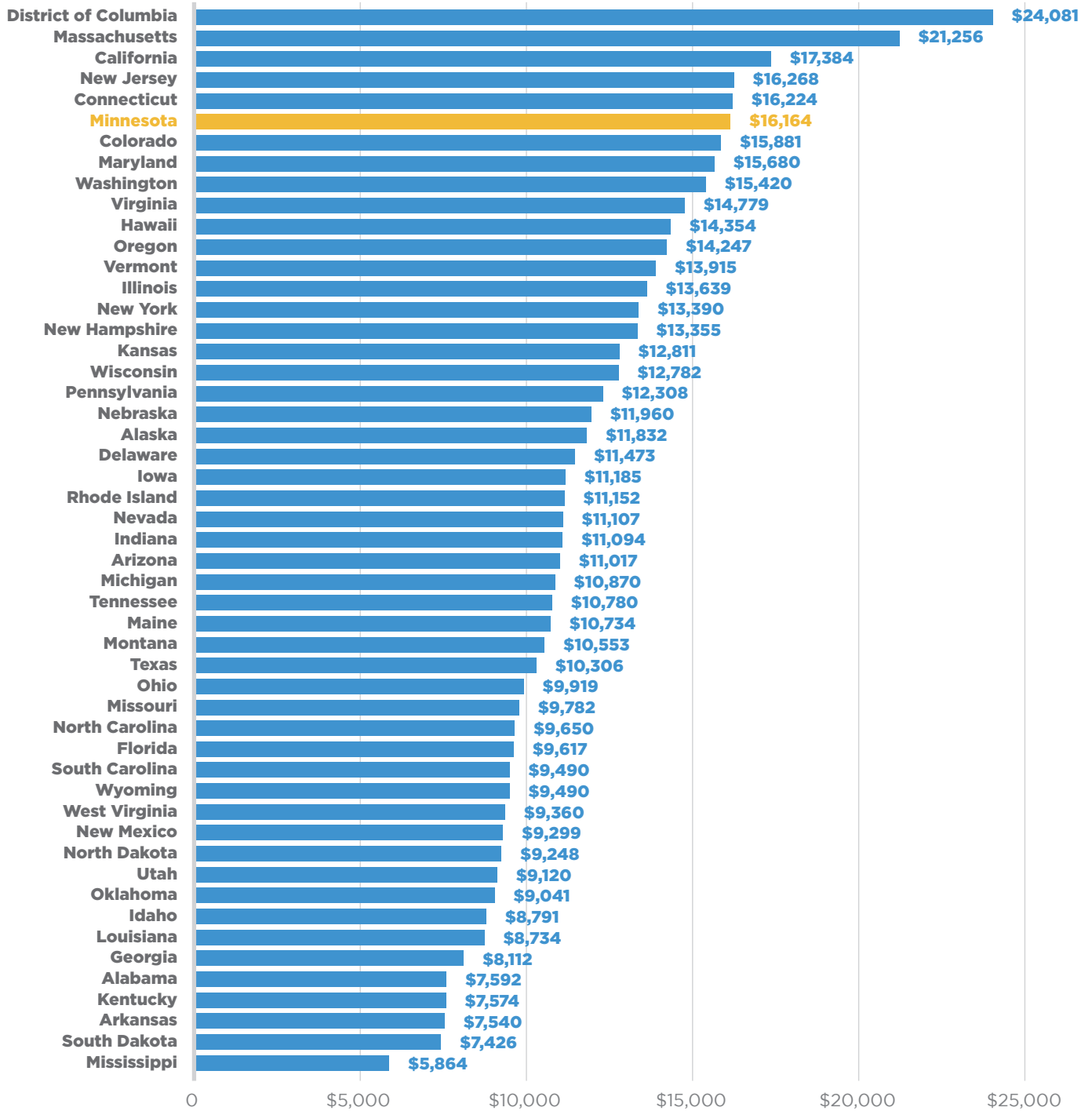
High costs, coupled with shortages, limit childcare options for families and force some parents — specifically mothers — to stay out of the labor force further contributing to financial hardship. Some parents may be forced to rely on cheaper, often low-quality alternatives that could jeopardize the health and safety of their kids.

Childcare costs do vary by region. Compared to metropolitan areas, rural areas are less expensive. This is due to differences in the cost of living. Real

“The high cost of childcare is a major problem, especially for low- and middle-income families.”

FIGURE 1

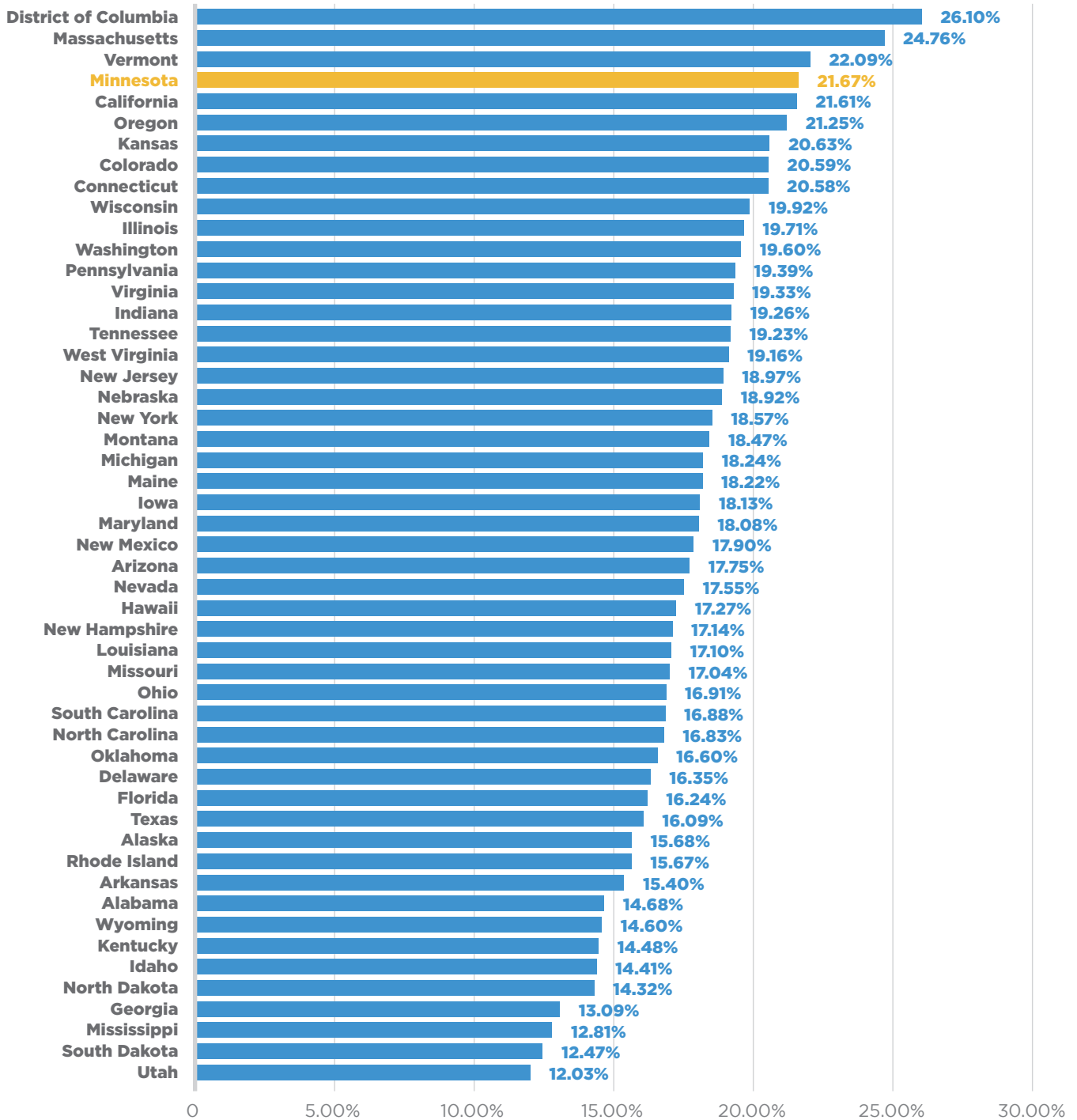
Annual Cost of Center-Based Infant Care by State



SOURCE: CHILD CARE AWARE (2019)

FIGURE 2

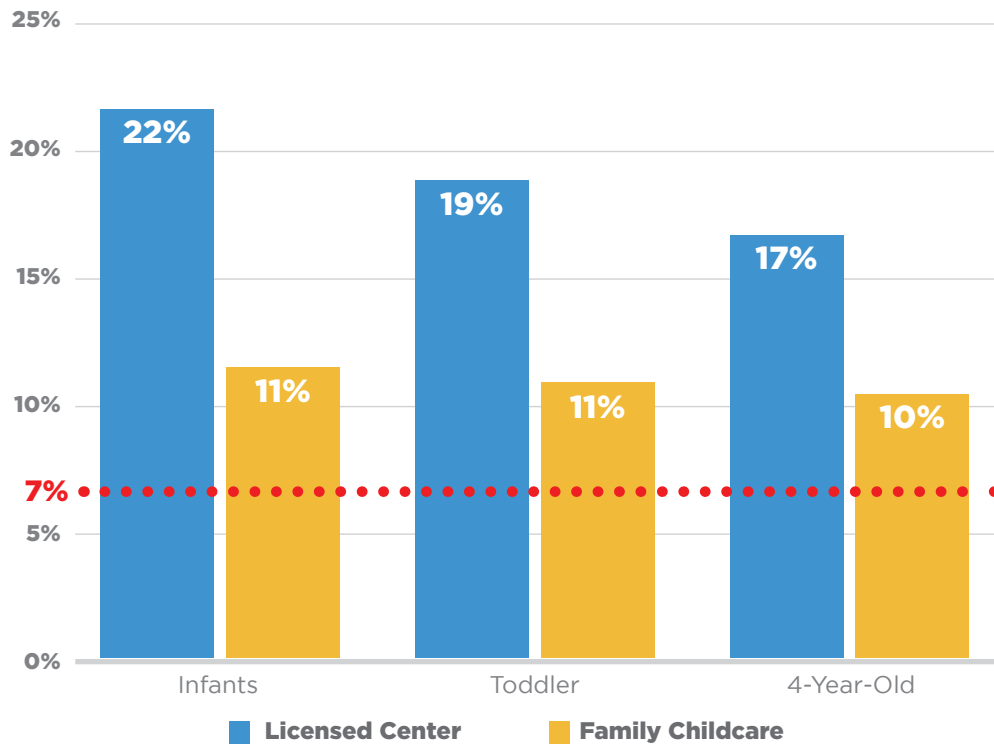
Annual Cost of Center-Based Infant Care as a Percent of State Median Household Income



SOURCE: CHILD CARE AWARE (2019), US CENSUS BUREAU (2019)

FIGURE 3

Annual Cost of Childcare in Minnesota as a Percent of Median Household Income, by Type of Provider and Age of Children, 2019



SOURCE: CHILD CARE AWARE (2019)

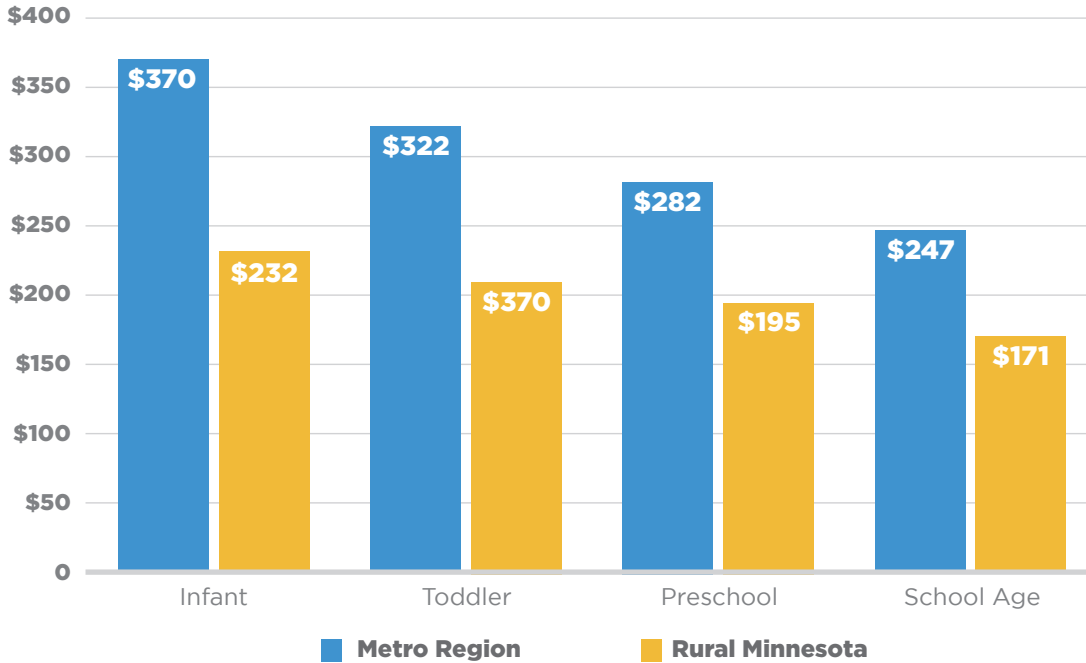
estate is cheaper in rural areas compared to metro regions which reduces the cost of providing care. Also, rural areas are brimming with home-based providers which are less expensive compared to centers.

According to data from Child Care Aware, on average, home-based providers cost at least 30

percent less in rural Minnesota than in the Metro region.³ Similarly, center-based providers also cost approximately 20 percent less in greater Minnesota compared to the Metro. Nevertheless, parents in rural Minnesota have lower incomes, so they still spend a high proportion of their incomes on child-care — generally more than 10 percent.⁴ ■

FIGURE 4

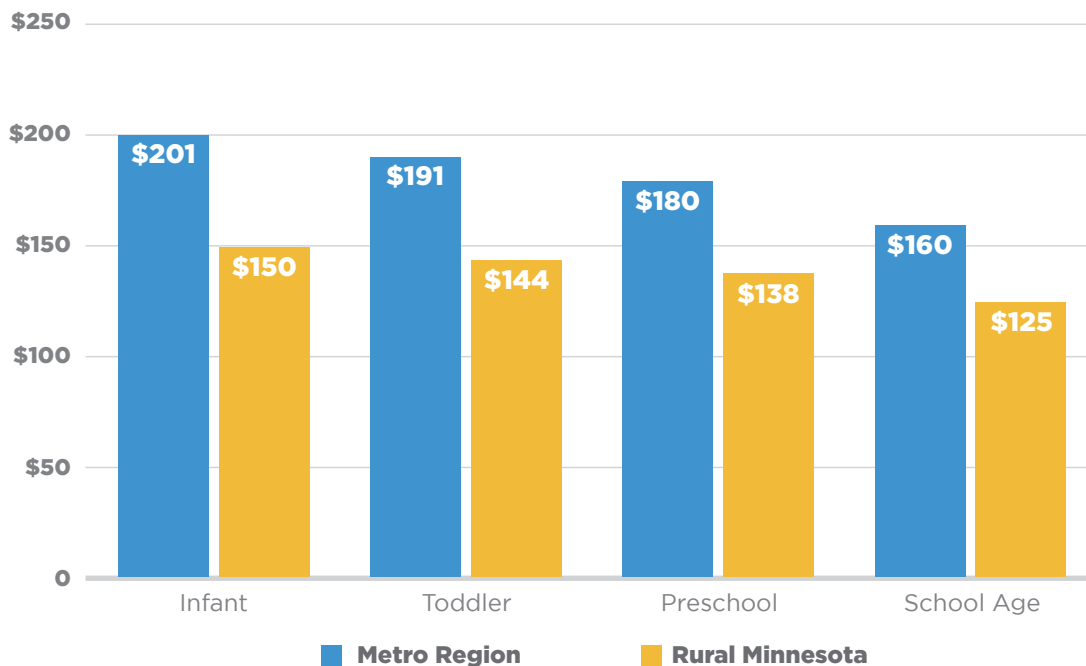
Average Weekly Cost of Center-Based Care, by Region



SOURCE: CHILD CARE AWARE

FIGURE 5

Average Weekly Cost of Family Childcare, by Region



SOURCE: CHILD CARE AWARE



It is not uncommon to hear stories of parents having to commute 30 minutes or more to find childcare or being waitlisted at day care centers before they can be offered a spot. Parents have even been known to ask providers when they expect openings in order to plan the best time to have a baby. Not only is childcare expensive, but spaces are limited because there isn't enough licensed capacity for all children in need of care.

According to a study by the University of Minnesota,⁵ the average family in Minnesota lives in a location where there are nearly two children for every opening at a licensed facility within their vicinity. In 2019, for example, Minnesota had enough capacity to care for 227,368 kids according to data from the Minnesota Department of Health and Human Services (DHS).⁶ However, the number of kids under six potentially needing care — i.e., kids whose parents were in the labor force — was 310,767 according to the U.S. Census Bureau American Community Survey⁷ — a shortage of 83,399.

And while this shortage afflicts the whole state, in rural Minnesota it is more acute. This is main-

ly because small home-based providers — who traditionally dominate the childcare market in rural Minnesota — have been leaving the industry in droves. Furthermore, while the share and number of licensed childcare centers has been growing, the growth has not been enough to offset the loss in capacity caused by the exit of home-based providers.

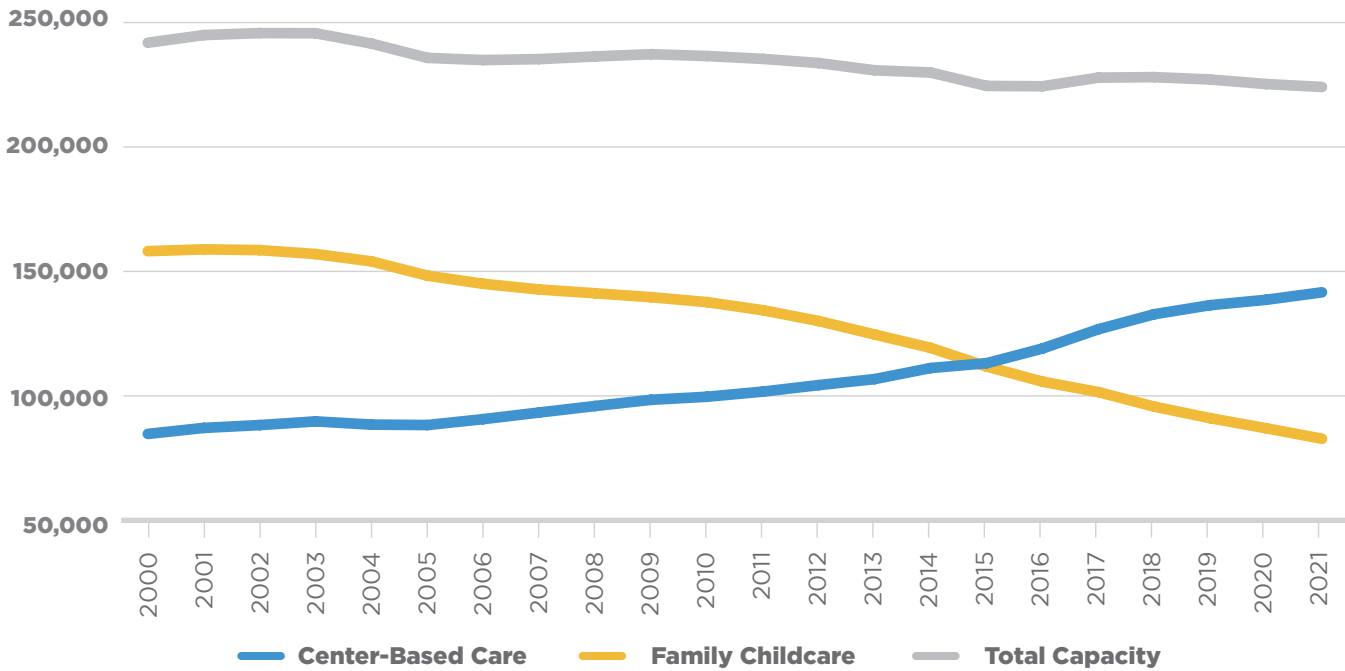
Figure 7 shows that since 2000, the total capacity from home-based providers has declined consistently while center-based capacity has grown. Total capacity is, however, below 2000 levels.

And while licensed center-based care has grown in capacity, albeit modestly, the growth has been concentrated in

the metro region, leaving greater Minnesota lacking. This is largely because the economic conditions of greater Minnesota make licensed centers less feasible. Large licensed day care centers are expensive to set up and run, so they require high enrollment and higher tuition for providers to cover their investment. Greater Minnesota is sparsely populated, and parents living there have lower incomes compared to parents in the Metro. Consequently, greater Minnesota is unable to support licensed centers.

“This shortage is especially acute in rural Minnesota where in-home providers are the staple of the industry.”

FIGURE 6
Childcare Capacity by Type of Care
 2000-2021



SOURCE: MINNESOTA DEPARTMENT OF HUMAN SERVICES

TABLE 1
Net Change in Childcare Capacity by Region
 2000-2020

	GREATER MN			TWIN CITIES METRO		
	2000	2020	Net change	2000	2020	Net change
Family childcare	90,686	55,231	-35,455	68,845	29,120	-39,725
Center childcare	25,730	40,933	15,203	60,779	97,816	37,037
Total capacity	116,416	96,164	-20,252	129,624	126,936	-2,688

SOURCE: CENTER FOR RURAL POLICY AND DEVELOPMENT

According to the Center for Rural Policy and Development,⁸ between the years 2000 and 2020, home-based childcare licenses declined by 50 percent and capacity declined by 47 percent. Center licenses, on the other hand, rose eight percent and center capacity rose by 60 percent. For metropolitan areas like the Twin Cities, the growth in center capacity has been able to nearly make up for the loss in family childcare capacity. In greater Minnesota, over 20,000 childcare spots have been lost with no replacement.

The exit of home-based providers is particularly brutal to the parents more likely to use that type of care. This includes parents in greater Minnesota, parents with infants and toddlers, parents of children with disabilities, parents who work nontraditional hours, low-income families, and Hispanic or African American families. Center-based care is expensive (especially for infants and toddlers), less flexible, and more suitable for high-income, densely

populated areas so it fails to accommodate these groups.

Overall, the Center for American Progress estimates that 26 percent of Minnesotans live in childcare deserts, i.e., “any census tract with more than 50 children under age 5 that contains either no childcare providers or so few options that there are more than three times as many children as licensed slots.” For rural areas, the proportion is 27 percent.⁹

Generally, however, low-income individuals — whether in rural, urban, or suburban areas — are more impacted by childcare deserts than are higher-income individuals since providers are less willing to establish themselves in areas where parents are less likely to afford the cost of care.¹⁰ Regardless, the shortage of childcare is an issue facing the whole state, with rural and low-income Minnesotans being more negatively affected. ■



Low Pay

Despite high tuition paid by parents, childcare work is closely associated with low pay. At least 80 percent of childcare workers are considered low-wage workers.¹¹ According to the Bureau of Labor Statistics, the national hourly average wage for childcare workers was \$12.88 in May 2020 and the median wage was \$12.24.¹²

This has serious implications for the industry. For one, low wages deter potential workers from entering the profession, making it hard for providers

to find and retain qualified workers. Since providers compete with higher paying jobs that require little to no skills, they lose workers to these other jobs. This has been regularly observed in recent months with childcare workers preferring to work at McDonald's or similar establishments which have been offering higher wages and have less stringent hiring qualifications.

Like high prices and shortages, low pay is also an issue made worse by government regulation. ■



Why the Childcare Crisis is Bad for the Economy

Childcare is essential for a well-functioning economy. Apart from providing a conducive environment for the development of kids, childcare also enables parents to work. In fact, research shows that whether a mother works is based on the availability of affordable childcare. This is evidenced by data showing that areas considered childcare deserts tend to have more mothers out of the workforce compared to areas with better access to childcare.¹³

Poor and low-educated mothers are especially discouraged from working when childcare costs are high. In their study published in the *Southern Economic Journal*, Rachel Connelly and Jean Kimmel found that high childcare costs increased the likelihood of mothers being on welfare and of being unemployed. Specifically, a one percent increase in the cost of childcare reduces the employment of single mothers between 0.3 percent and 1.1 percent.¹⁴

Data from the National Survey of Children's Health (NSCH) revealed that in 2016, over 30,000 Minnesota parents of kids under 5 "had to quit a job, not take a job or greatly change a job because of problems with childcare."¹⁵

“Absenteeism due to childcare issues costs U.S. businesses approximately \$4.4 billion annually.”

When parents stay home due to a lack of access to childcare while they would prefer to work, they lose income. And for low-income parents, this increases the possibility of staying in poverty. Lack of access to childcare is, unfortunately, not just an issue for families. Businesses and the economy lose when parents forego economic production due to a lack of access to childcare.

Child Care Aware estimates that absenteeism due to childcare issues costs U.S. businesses approximately \$4.4 billion annually.¹⁶ Ready Nation estimates an annual cost of “\$57 billion in lost earnings, productivity and revenue,” \$37 billion of which is borne by parents.¹⁷

A 2018 study by Wilder Research covering seven counties of Northern Minnesota, which had the largest childcare shortage in the state — Aitkin, Carlton, Cook, Itasca, Koochiching, Lake, and St. Louis — outlined the following economic effects from lack of access to childcare for the region as well as the whole economy:

1. A loss of \$8.1 million in earnings to families who are not able to work
2. A 13 percent reduction in productivity for

- employers, averaging \$4,290 per worker without access to childcare for their children
3. A loss of an estimated \$2.3 million in tax revenue for state and local governments, and an estimated \$3 million loss for the federal government due to lost economic activity
 4. A loss of an estimated \$13.3 million in

lifetime earnings of children without childcare who would not complete a high school education thereby reducing their future employability and earnings.¹⁸

Simply put, addressing the childcare crisis is in the interest of parents and children as well as the whole economy. ■



While childcare was already an issue, events during the coronavirus pandemic made the crisis worse. For one, some parents lost jobs and had little need for childcare or could not afford it. So, these parents pulled their children out of childcare subsequently reducing enrollment. Other parents working from home or fearing COVID-19 infections also had their kids stay home during the pandemic, reducing revenue for providers.

But apart from fear of the virus, restrictions like lower group limits also reduced revenues for providers while increasing costs. In Minnesota, providers were limited to 10 persons per group, including staff.

The Federal Reserve Bank of Minneapolis estimated that for a hypothetical childcare center normally serving 104 kids — 16 infants, 28 toddlers, and 60 pre-school kids — the 10-person group limits reduced total enrollment to 57 and cost the center \$17,943 in monthly revenue. Group family providers, which can care for up to 12 kids, lost approximately 15 percent of revenue (annualized) or about \$1,200 per child per month.¹⁹

At the same time, however, providers faced increasing costs due to (1) increasing cleaning costs,

and (2) increasing labor costs as more staff was required to keep groups small and perform extra cleaning duties. Due to school closures, providers also had to care for school-aged children causing higher expenses on food and other specific supplies necessary for kids of that age.

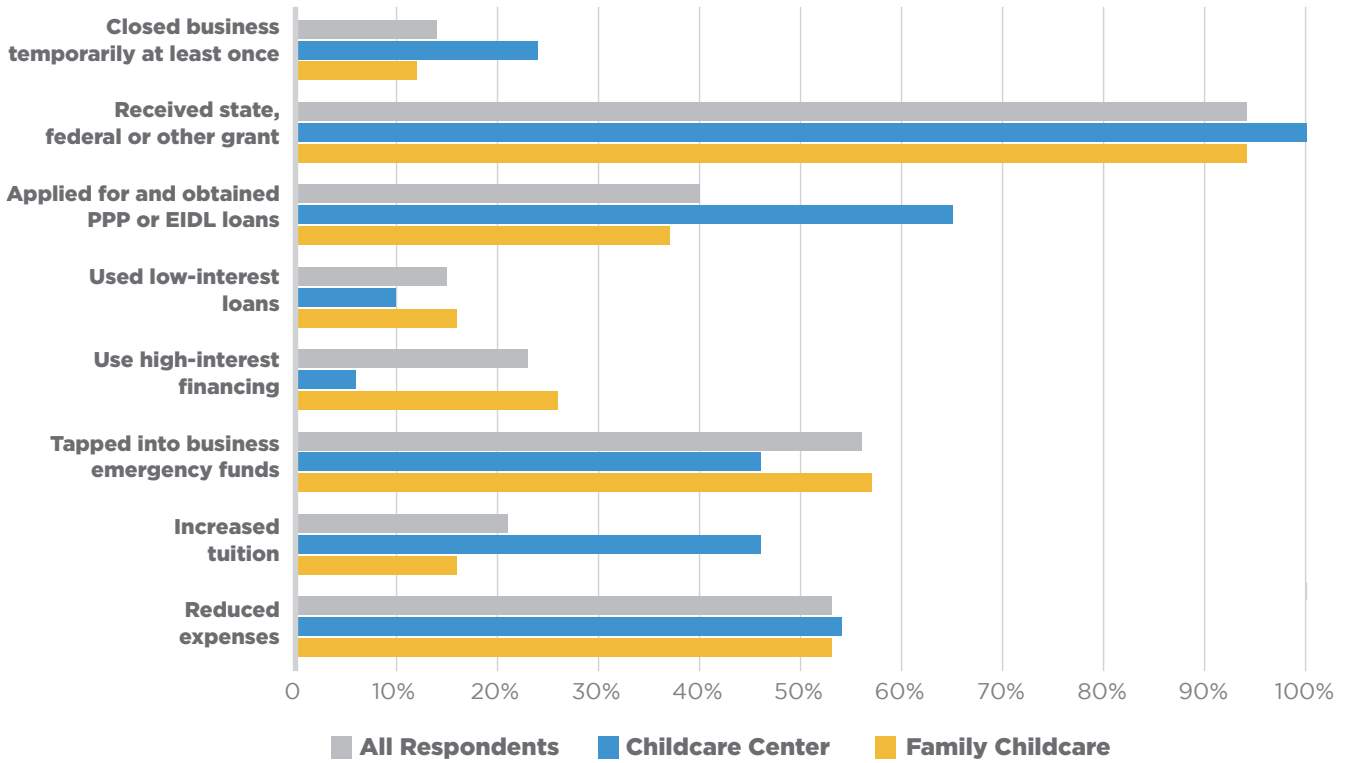
Providers have survived the pandemic partly due to government grants from programs like the American Rescue Plan Act which provided \$15 billion to the Child Care Development Block and Grant (CCDBG) — the major federal childcare funding program. Providers also used the Paycheck Protection Program (PPP), but some have had to take extra measures like dipping into savings or taking out high-interest loans to stay in business.²⁰

Due to these strenuous circumstances, Minnesota has seen a loss of more than 4,000 childcare slots between 2019 and 2020, with home-based providers making up an estimated 97 percent of the total loss. This exacerbates what was already a nightmare for parents, especially those with low incomes, and those in greater Minnesota. Minnesotans will have to grapple with a worse childcare crisis post-COVID.

“Minnesota has seen a loss of more than 4,000 childcare slots between 2019 and 2020.”

FIGURE 7

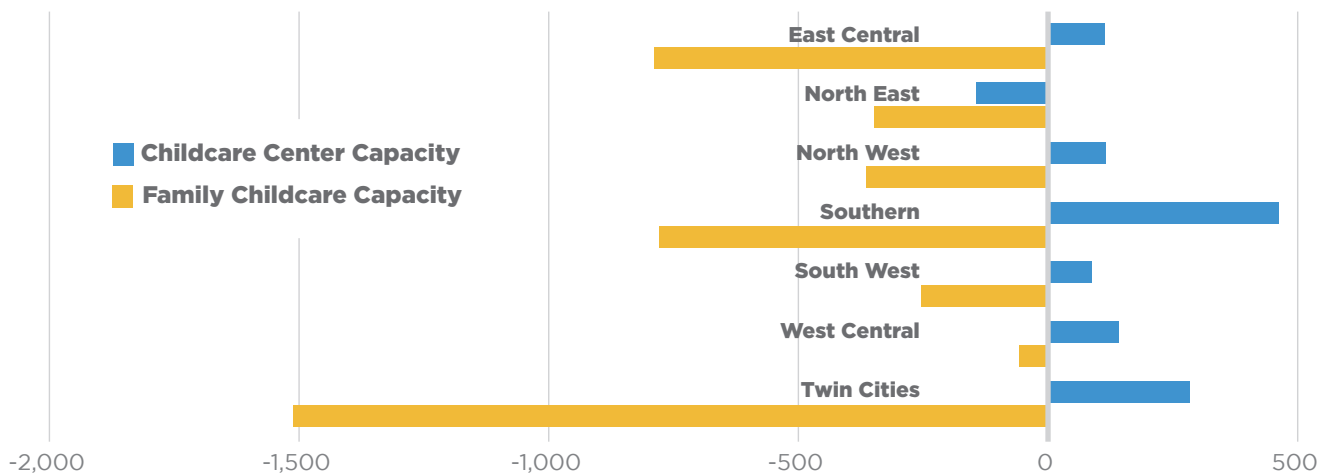
How Providers Survived the Pandemic



SOURCE: FEDERAL RESERVE BANK OF MINNEAPOLIS & FIRST CHILDREN'S FINANCE²¹

FIGURE 8

Change in Childcare Capacity Between Year-end 2019 and Year-end 2020, by Region



SOURCE: CENTER FOR RURAL POLICY AND DEVELOPMENT²²



What Explains the Crisis?

To effectively address the lack of high-quality affordable childcare in Minnesota, we need to understand what causes it. And to some extent, the economics of the childcare industry is what's to blame for the crisis. Childcare is an industry that is plagued by what economists call Baumol's cost disease, named after economist William Baumol. Baumol's cost disease asserts that industries which do not experience an increase in labor productivity due to advancements in technology tend to see their costs rise as wages rise to keep workers from fleeing to industries that have seen wages rise due to increased labor productivity.

In childcare, there is no invention that would allow caregivers to produce more per given unit of labor. The process of caring for children itself requires that a worker looks after the children. In this way, there are no real means for improving productivity to keep costs down. So, unlike other goods and services which see costs go down due to higher productivity, childcare costs tend to rise as providers raise wages to keep up with rising wages in other sectors. This is why parents are faced with high and rising day care costs.

Recently, more regulations calling for increased labor per number of children have raised costs even more but without corresponding wage increases.

But this is a universal phenomenon; it does not explain why Minnesota has some of the highest childcare costs in the country. Other factors must be involved.

Other Factors

Numerous factors outside of the industry structure do impact the cost of childcare. These include the type of care, age of children, and cost of living. Upon closer inspection, however, none of these explain Minnesota's exceptionally high costs.

Age of children: Younger children, like infants and toddlers, require more attention and face stricter limitations than older children. In Minnesota, for example, the state requires that a center has one teacher per four infants, but one teacher per ten 4-year-olds. This difference raises the cost of labor required to look after younger kids compared to older kids, thereby raising the cost of care for parents.

Consequently, the cost of childcare for 4-year-olds is significantly lower compared to that of infants. But this is also true for all other states. Regardless of the type of provider, in most states, day care for younger kids costs significantly more than day care for older kids. Moreover, Minnesota ranks relatively high when it comes to the cost of licensed center care for both infants and 4-year-olds. Age

does not explain why childcare is more expensive in Minnesota.

Type of provider: Parents who send their kids to centers pay thousands more than parents who choose to send their kids to home-based providers. Centers require a lot of money to set up and run, so they charge higher tuition. But this is true for all states, so it does not explain the higher-than-average cost of center-based care in Minnesota.

In recent years, Minnesota has experienced a significant decline in home-based providers which could be a contributing factor to overall affordability. But this is a phenomenon being experienced by other states as well.

Cost of living: Some studies have documented a relationship between the cost of living and the cost of childcare. According to a 2019 report by The Committee for Economic Development of the Conference Board (CED), states with a higher cost of living tend to have a higher cost of infant care, specifically center-based infant care. Additionally, CED noted that childcare costs tend to rise more than proportionately with a rise in the cost of living across the states.²³

Despite being the fourth most expensive state for infant care, Minnesota is not one of the most expensive. Minnesota ranks in the middle when it comes to price levels. In 2019, the average price level in Minnesota ranked 22nd and was lower than the national average according to the Bureau of Economic Analysis (BEA). Moreover, childcare in Minnesota is more expensive than in numerous other states that have a higher cost of living.

Government Regulation

Given that most factors used to explain why childcare is expensive do not explain why Minnesota is more expensive compared to other states, the next step would be to look at regulation. Government regulation directly impacts the cost of care through compliance costs.

Governments generally assume that childcare suffers from a market failure called information asymmetry. This means that parents lack enough

information to judge what quality childcare looks like and how to locate it. In that case, as the Minnesota DHS claims, “licensure provides the necessary oversight mechanism to ensure childcare is provided in a healthy and safe environment by qualified people and meets the developmental needs of all children in care.”²⁴

Some evidence does suggest that parents are willing to drive further or pay more for highly rated providers.²⁵ This means that to some extent parents can judge quality and are able to locate high-quality childcare. Evidence also indicates that regulations do very little to improve childcare quality, making the case for regulation even weaker.

But despite having little effect on quality, evidence shows that these regulations raise the cost of providing care, contributing to high costs and a shortage of spaces. Strict teacher-staff ratios, low group size requirements, and stringent hiring qualifications are some of the contributing factors to the lack of high-quality affordable childcare.

Research Evidence

Numerous studies on childcare regulations do find evidence suggesting that strict regulations raise the cost of childcare. Some of those studies are discussed in the next two sections.

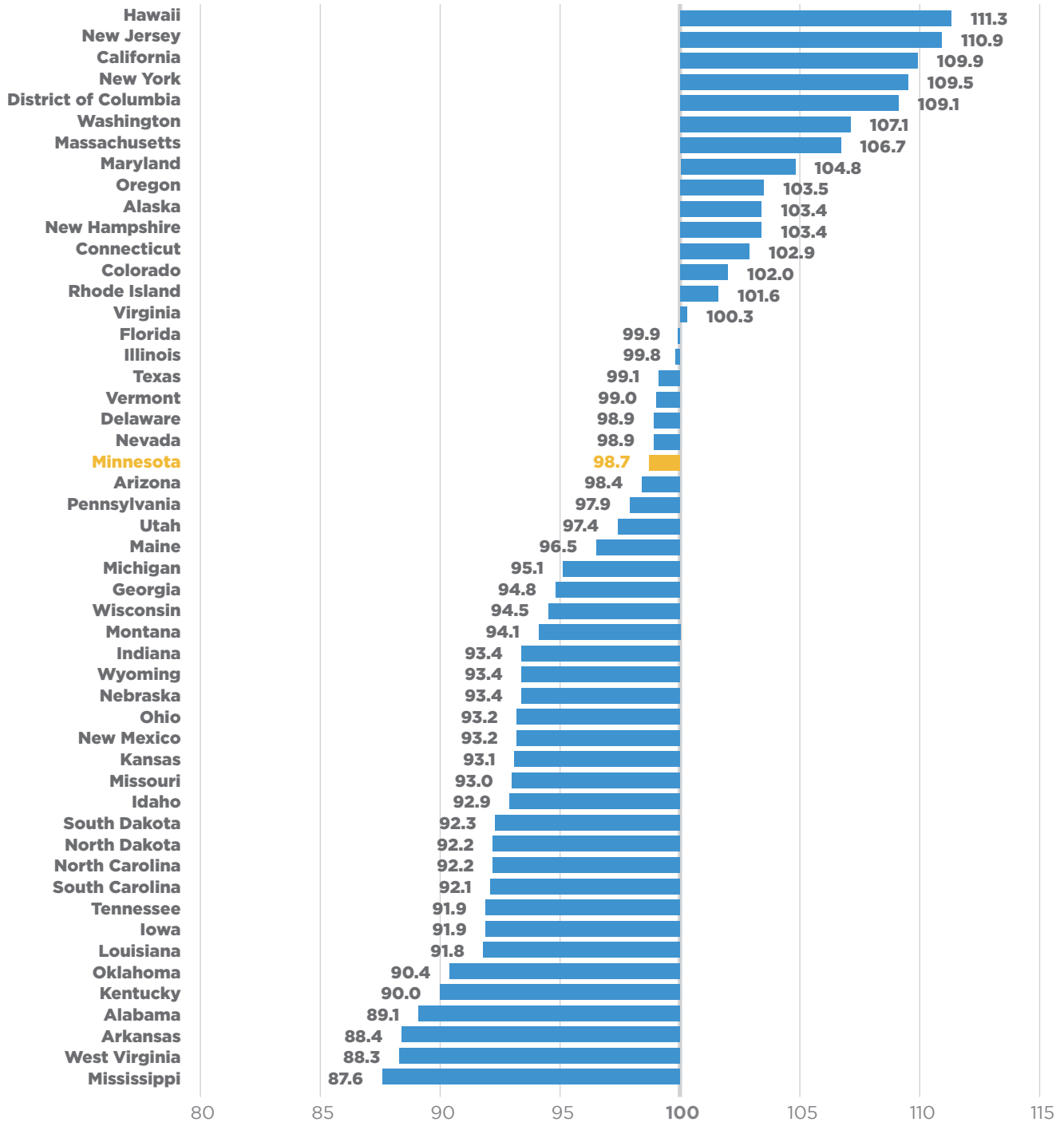
Child-staff ratios

Some studies find that strict staff-child ratios raise day care costs, pricing out low-income parents and driving them to unregulated, low-quality care and forcing some mothers to stay out of the labor force. Strict staff-child ratios additionally reduce the wages of childcare workers since more staff is required to take care of the same number of children, so each worker gets a smaller share of wages.

- » A 2011 study by V. Joseph Hotz and Mo Xiao found that reducing the number of infants per staff by one reduces the number of providers by 10 percent. Additionally, these supply effects accrue wholly to low-income areas forcing parents to shift to home-based providers where childcare is generally considered to be of lower quality. Rich neighbor-

FIGURE 9 Price Levels for States, 2019

United States =100



SOURCE: BUREAU OF ECONOMIC ANALYSIS

hoods, on the other hand, do benefit as they experience improved quality and supply.²⁶

- » A 2004 study by Janet Currie and V. Joseph Hotz found that low-income kids tend to be priced out of the market due to stringent education requirements, small staff-child ratios, and frequent inspections of facilities.²⁷
- » A study by the Mercatus Center at George Mason University found that reducing the number of infants per staff by one would increase the cost of childcare between 9 and 20 percent.²⁸
- » A 2004 study by Randall Heeb and Rebecca Kilburn found that reducing the number of children allowed per staff by two for all ages and all states increased the cost of center-based childcare by 12 percent, resulting in eight percent fewer kids in centers and one percent fewer mothers working.²⁹
- » In 2007, David Blau found that tougher regulations like low child-to-staff ratios reduce wages for day care center employees because parents are unwilling to pay the increased costs due to regulations which force employees to absorb additional costs.³⁰

Staff Hiring Qualifications

Stringent hiring qualifications means that providers must raise wages to attract qualified candidates

which raises the cost of childcare. Consequently, strict hiring requirements also make it hard for parents to find spaces for care when providers cannot find qualified teachers to care for children. Low wages in childcare make it especially hard for providers to compete with other employers paying higher wages but with less strict qualification requirements.

- » Mercatus Center found that “requiring lead teachers to have at least a high school diploma is associated with an increase in childcare costs for infants of between 25 and 46 percent, or between \$2,370 and \$4,350 per year, per child. The cost of care for 4-year-olds shows a similar effect, with a high school diploma requirement raising costs by between 22 and 40 percent.”³¹
- » Hotz and Xiao found that “increasing the average required number of years of education of center directors by 1 would reduce the number of childcare centers in the average market by between 3.2 percent and 3.8 percent.”³² ■



This report uses more recent data to analyze how regulations affect center-based childcare costs. Our findings are in tune with earlier research showing that strict regulations in childcare are indeed associated with higher costs. More specifically, strict staff-child ratios and group size limits, as well as stringent hiring and training requirements are associated with significantly higher tuition for center-based care for infants and 4-year-olds.

1. Staff-child ratios

At a day care center, children are usually divided into groups. The person in charge of giving primary care to each group of children and designing day-to-day programs is considered a lead caregiver. In Minnesota, childcare workers with teacher qualifications are the designated lead caregiver.

The number of caregivers required per group of children is dependent on staff-child ratio requirements. For Minnesota, the maximum number of infants — aged 6 weeks to 16 months — that can be in one group is 8. And for every 4 infants, centers must have 1 staff person.³³ This means that centers must have 2 staff workers per group of infants. However, other states like Colorado, Arkansas, and Mississippi allow more infants per staff person and more infants per group.

Additionally, for other states, the cut-off age for infants at a center is 12 months, while in Minnesota infants are defined as aged six weeks to 16 months. This means providers in Minnesota are not able to put slightly older kids — those between 12 to 16 months — in larger groups, which could cushion against high tuition.

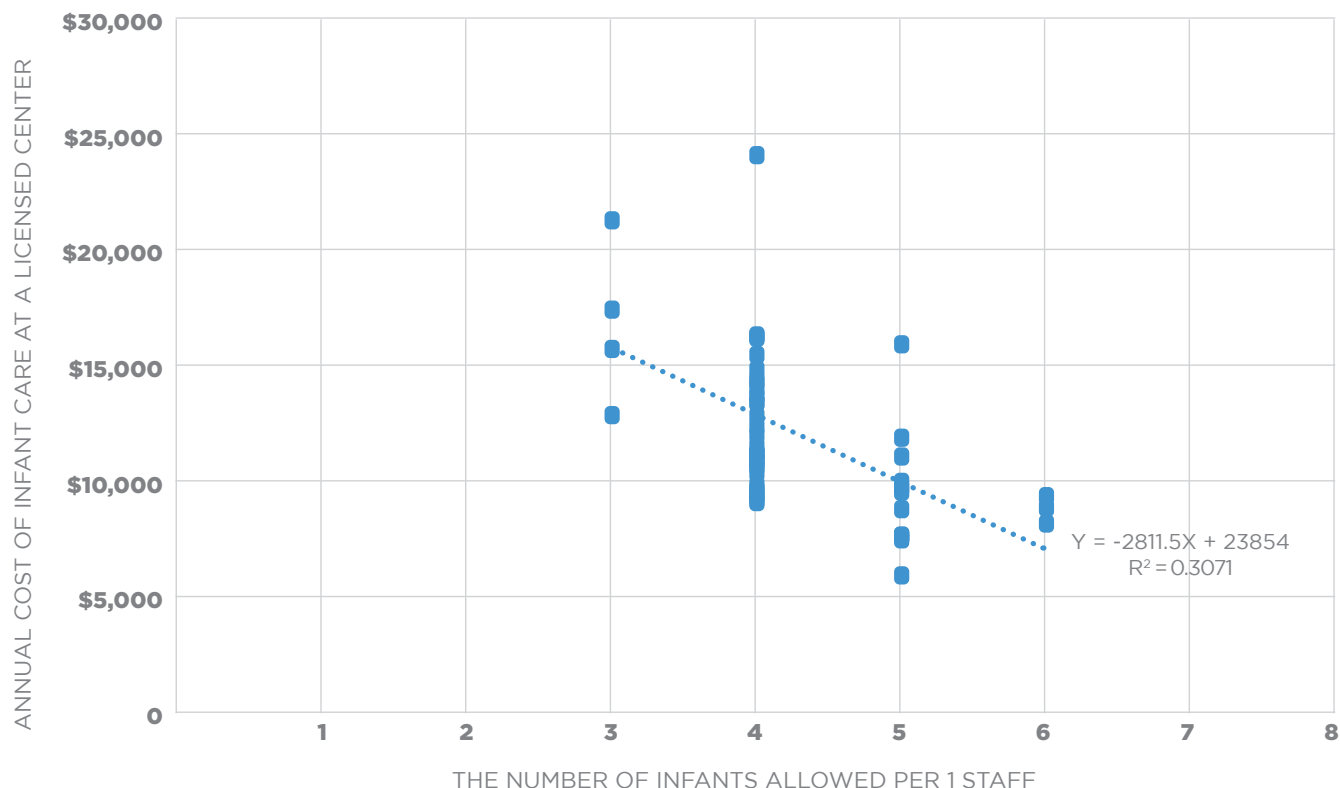
Findings from a regression analysis do show that reducing the number of infants — defined as below nine months of age — is indeed associated with higher costs for infant center-based care. More specifically, these results suggest that reducing the number of infants allowed per caretaker by one — thereby making the staff-child ratio stricter — raises the price of care by an estimated \$2,811.

As shown in Figure 13, there is a negative relationship between the number of infants that a staff person is allowed to take care of and the cost of care. These results are statistically significant, as illustrated by a P-value of less than 0. The R-squared value suggests that differences in staff-child ratios explain about 30 percent of the difference in the cost of infant center-based care among the states.

The same is true when it comes to 4-year-olds. Reducing the number of 4-year-olds allowed per staff by one increases the total annual cost of licensed center-based care by \$445. Here again,

FIGURE 10

Number of Infants Allowed Per Staff Vs. Annual Cost of Infant Care at a Licensed Center



SOURCE: CHILD CARE AWARE, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

the results are statistically significant, with staff-child ratios explaining approximately 27 percent of differences in the cost of center-based care for 4-year-olds.

Arguably staff-child ratios seem to have a bigger impact on infant costs. And this is because states already allow a higher number of 4-year-olds per staff compared to infants, hence the marginal effect is smaller.

The results for both infants and 4-year-olds hold when we control for income differences between states. Reducing the number of children allowed per staff increases the cost of care even when taken as a proportion of median household income.

2. Teacher Hiring Requirements

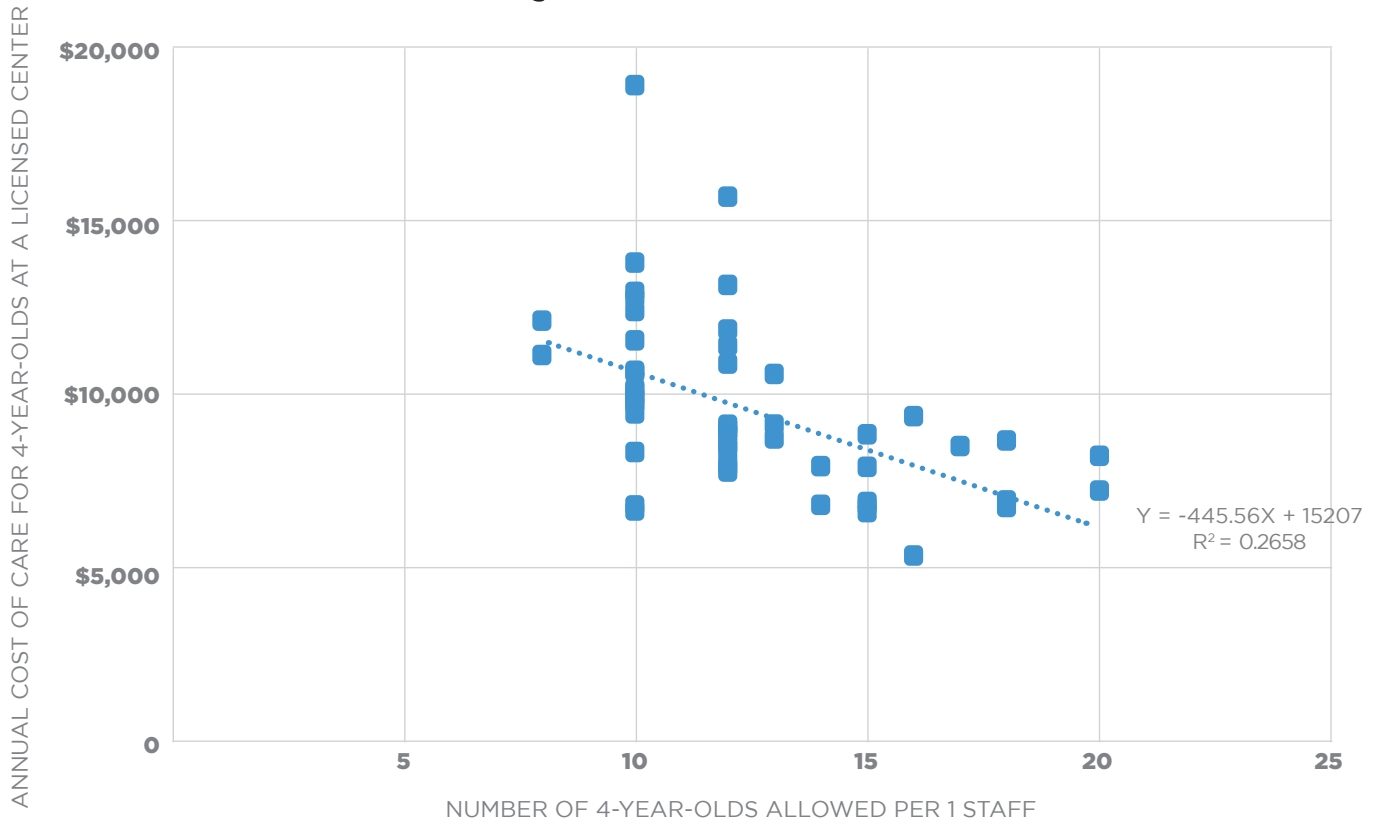
Generally, most studies focus on teachers and directors since hiring qualifications for these pro-

fessions are easily collectible. Looking at the data, there is little variation among states when it comes to education requirements for center directors. Most states require some form of post-secondary education, so Minnesota is in line with most states. Nevertheless, the evidence does indicate that stringent education requirements for center directors do raise the cost of childcare, except in this case that effect would be hard to show since most states have similar requirements.

There is a huge variety when it comes to requirements for teachers and caregivers, however. In Minnesota, for example, to be a teacher at a day care center, someone with a high school diploma must have 4,160 hours of experience as an assistant teacher and 24 quarter credits from an accredited post-secondary institution.³⁴ And to be an assistant teacher, someone with a high school diploma must

FIGURE 11

Number of 4-year-olds Allowed Per Staff Vs. Annual Cost of Care for 4-year-olds at a Licensed Center



SOURCE: CHILD CARE AWARE, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

have 2,080 hours of experience as an aide or student intern and 12 quarter credits from an accredited post-secondary institution.³⁵ Taken together, it takes over six thousand hours of experience and 24 quarter credits of post-secondary education for someone with a high school diploma to be a childcare teacher at a center.

In other states, however, childcare workers designated as teachers or lead caregivers are only required to be over 16 years old and undertake training before looking after children.

These differences make it possible to understand how education requirements affect the cost of care. To analyze how hiring requirements affect the cost of care the study constructs a regulatory index for teachers. To capture more nuanced distinctions among states, the study uses a 4-tier index that

ranks states on the level of strictness of teacher education hiring requirements.

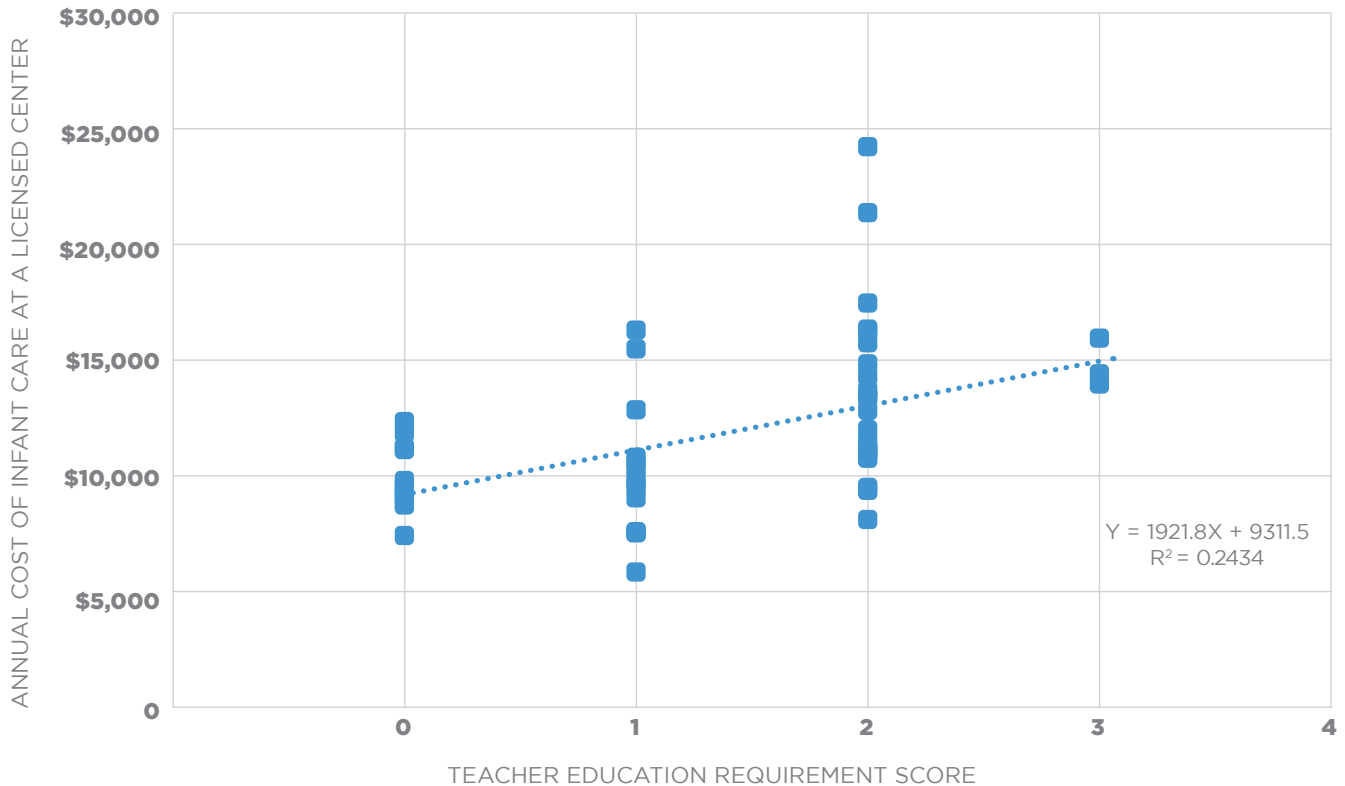
The index works as follows: states with no education requirements earn a score of 0; states which require a high school diploma, but no further education earn a score of 1; states with post-secondary requirements but less than a bachelor's degree earn a score of 2; and states requiring a bachelor's degree or higher get a score of 3.

In this index, a higher score represents more stringent hiring qualifications.

States usually have a mixture of options (education, training, and experience) that can be used to satisfy hiring requirements. In this case, the index would only consider the education requirements of the least strict option in cases where there are numerous options.

FIGURE 12

Teacher Education Requirement Score vs. Annual Cost of Infant Care at a Licensed Center



SOURCE: CHILD CARE AWARE, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

	Index
Teacher education requirements	<High school diploma=0, High school diploma, no post secondary education=1, Some post secondary education but less than Bachelor's Degree=2, Bachelor's Degree or higher=3

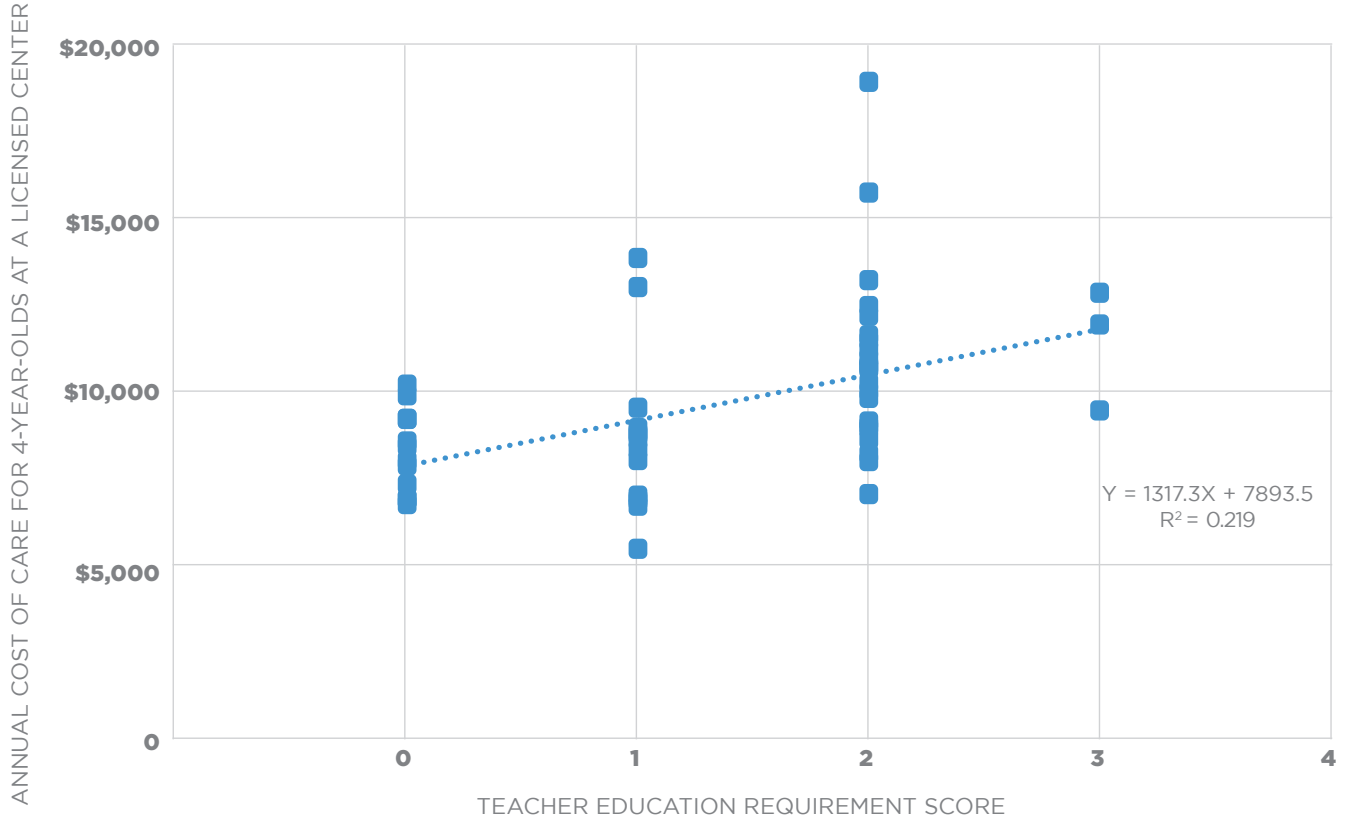
As can be seen in Figure 12, there is a positive relationship between the level of education requirements and the cost of care. That is, requiring extra education raises the cost of infant care by about \$1,920 at every education level. This means that for a state like Minnesota which has a score of 2, center-based care for infants would be about \$3,840 less expensive if the state did not require teachers

to have a high school diploma and college credits. The model is statistically significant with education requirements explaining 24 percent of the differences in the cost of care.

The same is true for 4-year-old care. Requiring extra education raises the cost of providing care for 4-year-olds by over \$1,300 at every education level. For Minnesota which has a score of 2, this means center-based care for 4-year-olds would be about \$2,600 less expensive if the state did not require a high school diploma and college credits. The model is statistically significant with education requirements explaining about 22 percent of the difference in the cost of center-based care for 4-year-olds. Results for both infants and 4-year-olds hold when controlled for income differences among states, much like staff-child ratios.

FIGURE 13

Teacher Education Requirement Score vs. Annual Cost of Care for 4-year-olds at a Licensed Center



SOURCE: CHILD CARE AWARE, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

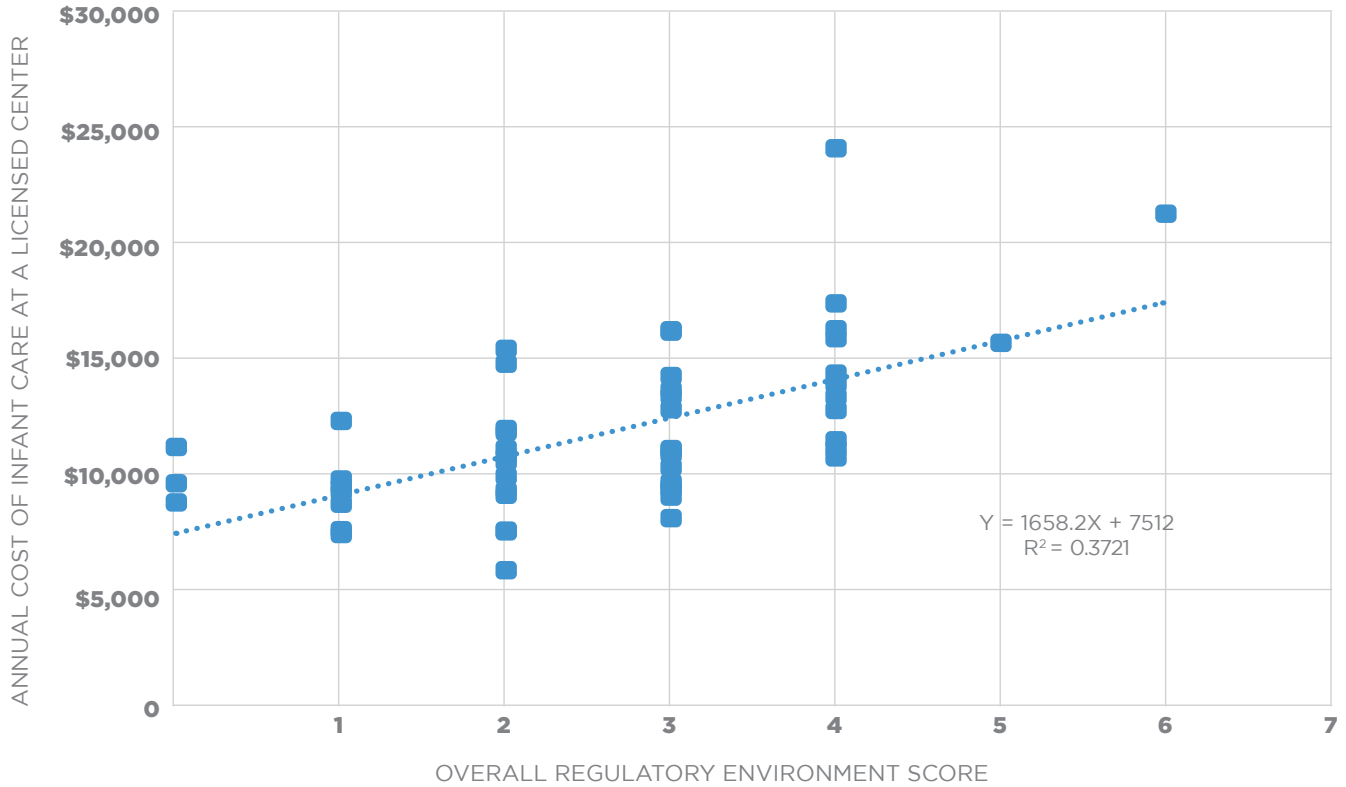
TABLE 2

Regulatory Environment Scoring Index

Childcare Regulation Type	Scoring Index
Number of infants (9 months) allowed per staff	≤4=1,>4=0
Group Size limits?	No=0,Yes=1
Maximum group size (9 months)	≤8=1,>8=0
Number of 4-year-olds allowed per staff	≤12=1,>12=0
Group size limits	No=0,yes=1
Maximum group size (4-year-olds)	≤24=1,>24=0
Teacher education requirements	<High school diploma=0, High school diploma no post secondary education=1, Some post secondary education but less than Bachelor's Degree=2, Bachelor's Degree or higher=3
Teacher annual training hours	≤16=0,>16=1

FIGURE 14

Regulatory Environment Score Vs. Annual Cost of Infant Care at a Licensed Center



SOURCE: CHILD CARE AWARE, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

3. Regulatory Environment

Previous research has mostly focused on how specific regulations affect childcare supply and prices. But what matters as much as or even more than each rule is how the mixture of rules interact to create an overall regulatory environment. Some states can have strict child-staff ratios but not stringent hiring requirements, which could lessen the impact of regulations on cost. On the other hand, some states can have both strict staff-child ratios and group sizes as well as staff hiring and training requirements, in which case the impact of regulations on prices would be more severe.

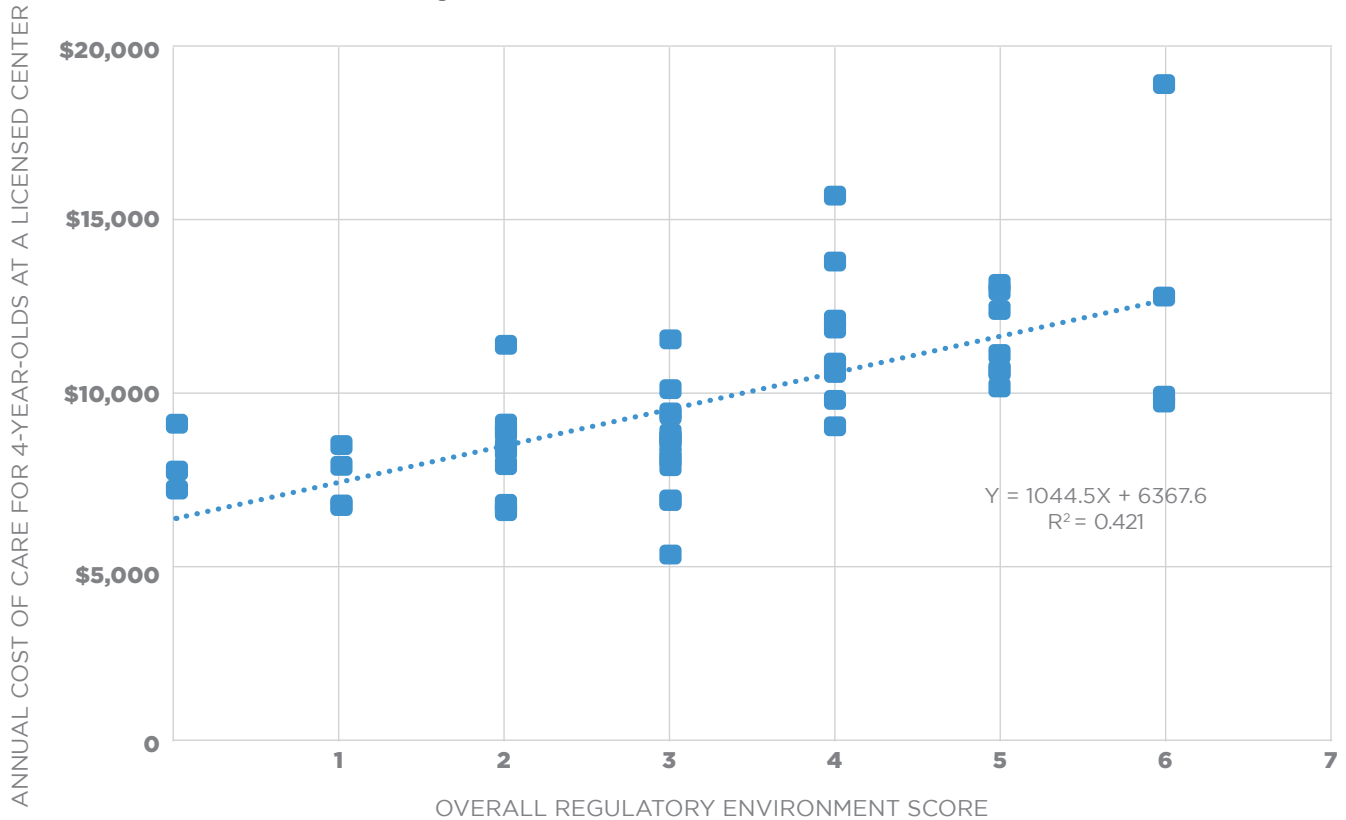
To look at the interaction between rules, this study creates an index that ranks states on how re-

strictive they are across multiple rules. Scores from all indexes are added. Higher total scores equal an overall more stringent regulatory environment, and a lower total score equals a less stringent regulatory environment. These scores are then regressed against childcare costs and analyzed. Here again, the focus is on infants and 4-year-olds.

For staff-child ratios as well as group size limits, any state setting the maximum number of children allowed per staff and per group at a value below the national average gets a score of 1, indicating that it is more restrictive. Any state setting the maximum number of children per staff and per group at a value above the national average get a score of 0, indicating a less restrictive environment. The index is

FIGURE 15

Regulatory Environment Score Vs. Annual Cost of Care for 4-year-olds at a Licensed Center



SOURCE: CHILD CARE AWARE, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

the same for annual training requirements — states requiring teachers or caregivers to undertake annual training hours more than the national average is considered more restrictive and given a score of 1, and less restrictive states receive a score of 0.

This index also adds an indicator of whether states regulate group sizes. The index for teacher requirements is the same as that used above, i.e., states score from 0 to 3 based on the education requirements they impose on childcare teachers.

As can be seen in Figures 14 and 15, strict regulation (measured as a high score) has a positive relationship with the cost of childcare. On average, a state tends to see its annual cost of center-based infant care rise by \$1,650 when its regulatory environment score jumps up 1 point. For 4-year-olds, a

1-point jump in the score is associated with a \$1,000 increase in the annual cost of center-based care.

Moreover, the regulatory index appears to have a higher explanatory power compared to specific childcare rules like staff-child ratios, suggesting that the overall regulatory environment might have a more significant impact on prices than each specific rule.

For infants, the regulatory index explains 37 percent of state differences in the cost of center-based care, and for 4-year-olds, the regulatory index explains approximately 42 percent of the state differences in the cost of center-based care. The positive relationship holds after accounting for income differences among states. ■



What These Findings Mean for Childcare

Discussions regarding childcare among legislators rarely mention regulations and how they contribute to the high cost of care. Instead, legislators focus on increasing spending on subsidies and expanding publicly-funded programs.

The Minnesota state government, however, does not have an infinite amount of money to spend. Increasing spending on childcare will increase long-term spending obligations putting Minnesotans on the hook for even more spending. More spending will lead to higher taxes in the future to keep those programs running. Minnesota is already a high tax, high spending state, and increasing spending further puts the state at high risk for future fiscal imbalances.

Moreover, government spending does nothing to lower childcare costs and instead places the burden on taxpayers. To tackle the childcare issue more sustainably, lawmakers need to focus on addressing factors that raise the cost of providing care. Evidence from this report indicates that regulations are the main culprit behind the high cost of childcare. And any policy that focuses only on spending with no regulatory reform is unlikely to address the crisis.

“To tackle the childcare issue more sustainably, lawmakers need to focus on addressing factors that raise the cost of providing care.”

Legislators should:

1. Loosen child-staff ratios and group size limits

Generally, older children face more lax staff-child ratio and group size requirements. In Minnesota, for example, childcare centers can have 7 toddlers — defined as children between 16 to 33 months — per staff, and 14 toddlers per group. This means that states whose age cut-off for infants is low — like 12 months — usually put slightly older children in bigger groups.

In Minnesota, however, the cut-off age for infants is much higher — 16 months. This means that while children between 12 and 16 months are considered toddlers in other states, and therefore face looser restrictions, that is not the case in Minnesota. If legislators lower the cut-off age for infants

to 12 months, it will mean that children between 12 and 16 months will be defined as toddlers, allowing centers to put them in bigger sizes thereby reducing the cost of providing care — savings that could be passed on to parents.

Additionally, legislators should consider increasing the number of infants and 4-year-olds allowed

per caregiver, as well as per group. When it comes to toddlers, Minnesota is on par with most states. However, given that the definition of a toddler is more restrictive, loosening the age cut-off could provide a cost-saving mechanism for providers.

2. Loosen hiring and training requirements

Hiring requirements have little to no effect on quality, but they increase the cost of childcare. Emphasizing on-the-job training and other mechanisms like apprenticeships would enable workers to get the knowledge and experience they need without being cost prohibitive.

Considering that the childcare industry is a low-wage industry, it doesn't make economic sense to require workers to spend time and money earning requirements for such low wages.

There is much research suggesting that what matters for childcare quality is not the length of training but the type of training. Training focused on early childhood education, and workplace development activities that support the interaction of teachers and children have been associated with high-quality childcare.^{36,37}

Legislators should consider efforts to loosen training length requirements and instead emphasize on-the-job training focused on early childhood education and child development or related topics. Making it easier for educators to gain skills and creating multiple pathways into the profession could be one way to attract workers.

3. Loosen administrative rules

Administrative rules sometimes reduce flexibility and increase compliance costs contributing to the rising cost of care. In Minnesota, for example, the DHS requires that the first person used by licensed centers to satisfy staff-child ratio requirements — or lead caregiver — should have the qualifications of a teacher.

Teachers are, however, more expensive since they face more stringent hiring requirements compared to other caregivers like aides or assistant teachers. This rule means that providers cannot

use equally capable, but more affordable workers with less educational qualifications like assistant teachers or aides as lead caregivers.

Allowing providers the flexibility to use other skilled workers like aides or assistant teachers as lead caregivers would lower costs for providers without lowering quality, especially considering that assistant teachers in Minnesota face more stringent requirements than do lead caregivers in many states.

Concerns about quality

Suggestions to loosen childcare regulations are usually met with skepticism. Proponents of regulations often claim that loosening rules would lead to declining quality. In Minnesota, quality is used as a justification for strict standards.

Research showing a positive effect of regulations on quality is very scant. The evidence mostly finds little to no effect of regulations on quality.³⁸

This is likely due to multiple reasons. For one, regulations measure inputs, which have a weak correlation to outputs in childcare. Moreover, regulations measure easily observable “structural measures” like staff-child ratios and group limits which have no direct correlation to quality. What matters for childcare outcomes is the quality of interactions between teachers and children. Evidence indicates that improved teacher-child interactions positively affect school readiness.³⁹

Length of teacher training and other regulations like staff-child ratios and group size limits have little bearing on the quality of interactions teachers have with kids. Certainly, these factors matter to an extent, but they are not the crucial quality mechanisms that legislators take them to be. These regulations do set the environment in which interactions between teachers and kids, or among kids happen. But they are bad proxies for measuring quality.

Quality in childcare is multi-dimensional and takes on different meanings for different people. For some parents, high-quality childcare means a caring and nurturing environment; to others it means curricula-based learning focusing on cognitive development. Most quality requirements

fail to address these differences and often focus on narrow standards like ratios and group size limits.

The ability of the government to control quality is limited. Moreover, it is important to keep in mind that other family characteristics like income and parental education levels, on average, appear to have a more systematic impact on child outcomes than do childcare features, a finding which is supported by research from the U.S. Department of Health and Human Services.⁴⁰

Issues with public assistance programs

In his Build Back Better plan — a bill which as of this publication date is stalled — President Joe Biden proposed spending hundreds of billions of taxpayer money to offer universal Pre-K and significantly subsidize childcare for younger children. In response to Minnesota’s historic surplus, Governor Tim Walz has also suggested significant spending on childcare to expand public Pre-K programs and as well as other assistance programs.

Public assistance programs can help some families access care. However, as findings from this report show, childcare is expensive in large part because of strict regulations. These programs won’t make childcare cheaper. They will merely transfer the cost to taxpayers.

But there are other issues with assistance programs that make them an undesirable option. These programs raise costs, restrict choice, and fail to satisfy differences in parental preferences. And in some instances, public childcare programs have been associated with negative outcomes among children.

Some might argue that despite the heavy costs they impose on taxpayers, investments in childcare are worth undertaking. Society benefits when children enrolled in these programs experience positive educational, social, and health outcomes. However,

there is very little evidence supporting this claim.⁴¹ Educational attainment gains from most programs fade out as kids get older. Also, government programs may end up worsening outcomes in children that use them — which is a cost to society.

A Head Start Impact Study by the U.S. Department of Human Services, for example, has evidence showing that cognitive gains made by kids who enrolled in Head Start — a publicly funded Pre-K program — faded out by the first grade. Moreover, some kids experienced negative cognitive, social-emotional, and health outcomes.⁴²

Public assistance programs raise costs

First, assistance programs like subsidized or free childcare do shield parents from the market cost of care. For this reason, subsidies may cause a jump in the demand for childcare services which pushes prices up especially since supply is limited. But higher prices usually necessitate even more subsidies which leads to a never-ending cycle of subsidies pushing demand up, which pushes up prices, hence raising subsidies.

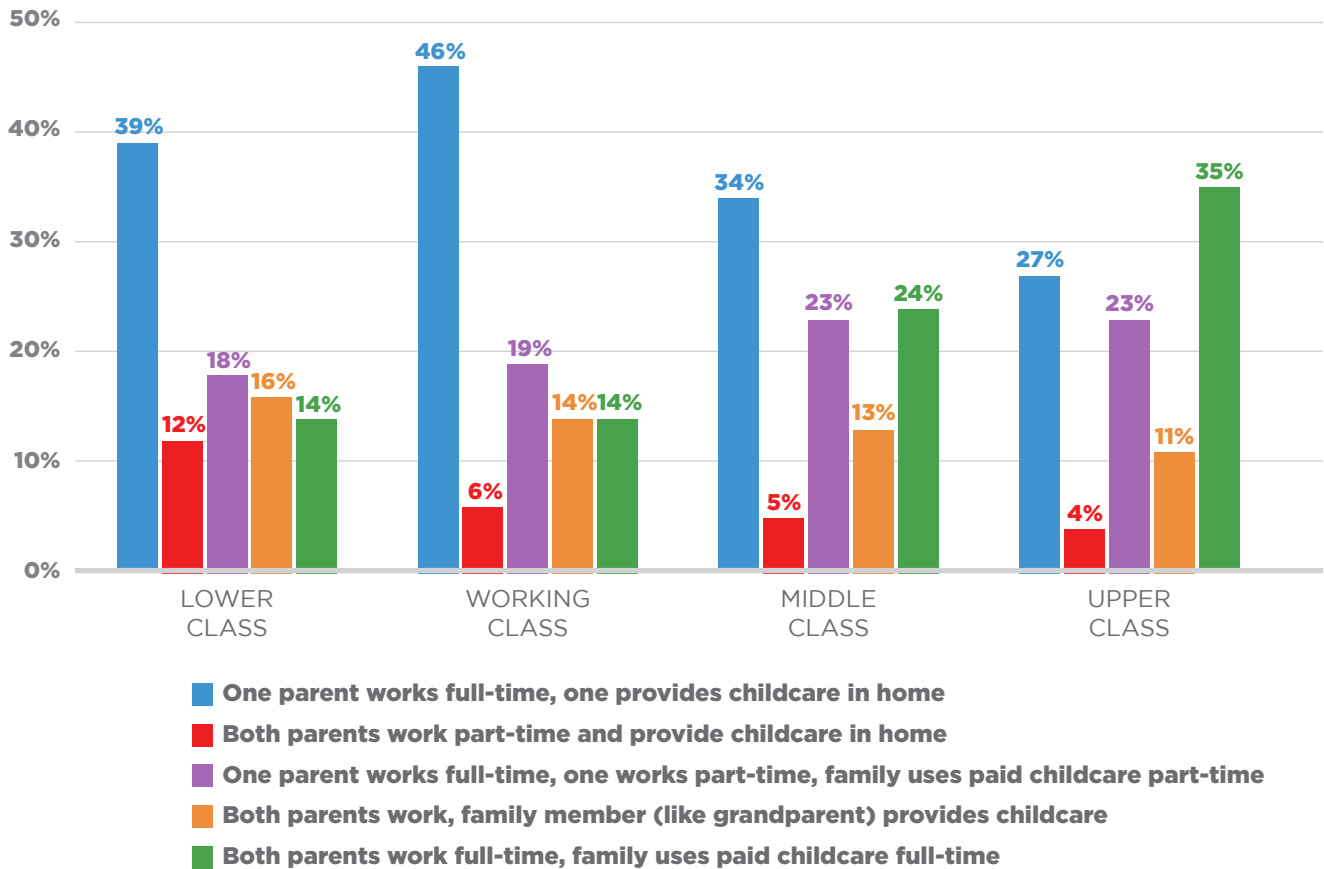
Second, subsidies come with additional regulations as governments try to regulate quality. This means that providers must spend extra money investing in compliance activities. When the CCDBG was reauthorized in 2014, for example, providers were required to meet extra training and licensing requirements which raised costs.

The Heritage Foundation has estimated that if Build Back Better passes, provisions in the bill, like minimum wage hikes and education requirements, would raise childcare costs by more than 50 percent in most states.⁴³ In Minnesota, that means parents would pay more than \$30,000 to put their infant through day care. This is counter to advocates’ claim that the plan would make childcare more affordable.

“Public assistance programs can help some families access care. However, as findings from this report show, childcare is expensive in large part because of strict regulations.”

FIGURE 16

Family Childcare Preferences by Class, 2021



SOURCE: AMERICAN COMPASS

Third, subsidies disincentivize providers from using cost-saving mechanisms, a common consequence of most subsidized goods and services.

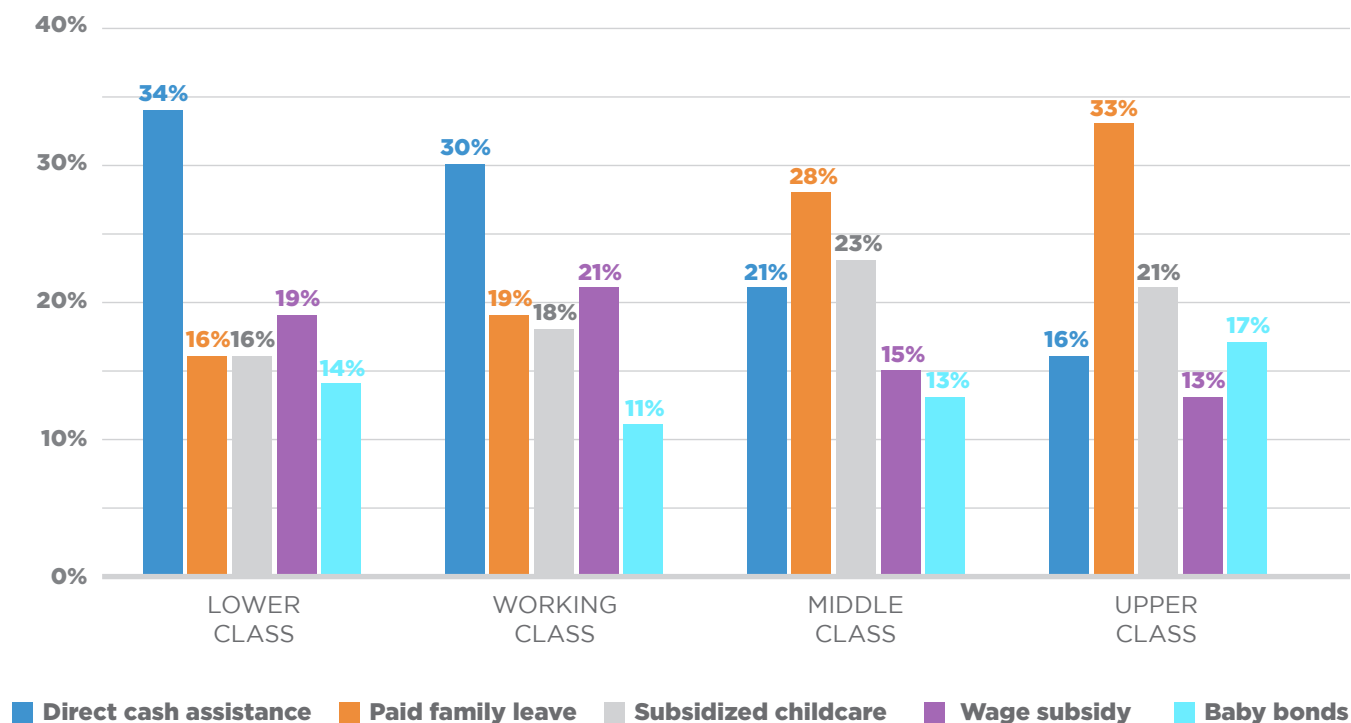
Price hikes due to subsidies do hurt low- and middle-income parents who cannot access subsidies. In fact, some studies have found evidence indicating a lower-than-average supply of childcare in areas concentrated with middle-income working-class families compared to highly subsidized low-income families, as is the case in Massachusetts.⁴⁴ Middle-income families are punished twice — they cannot access subsidies, and those subsidies raise the cost of care.

Public assistance programs restrict choice

Small independent providers usually can't afford to comply with the regulations associated with childcare subsidies, such as training and licensing requirements. Moreover, quality rating systems like Parent Aware, which offers higher reimbursement rates for highly rated programs and provides other resources like free or low-cost training, early learning scholarships and grants, use quality benchmarks that are more favorable to large, corporate centers. These benchmarks include verifiable curricula

FIGURE 17

Family Policy Preferences by Class, 2021



SOURCE: AMERICAN COMPASS

and teacher credentials but leave out other things important to parents like location, cost, and atmosphere. These programs also have complex application and renewal processes which have prevented some providers from reapplying.⁴⁵

In Minnesota, programs that are rated 3 out of 4 stars receive 15 percent more than the CCAP's standard maximum rate and those with 4 stars get 20 percent more. According to DHS, however, in 2017 about 1,600 center-based providers and 1,100 family childcare programs were rated. In the same year, there were approximately 8,100 family childcare providers in the state, meaning that only 14 percent were rated. The total number of center-based providers was 1,725 meaning that about 93 percent were rated. Moreover, home-based providers were more likely to have a lower rating.⁴⁶

Small providers are left behind when it comes to

getting assistance, and even more so when eligibility is based on quality ratings that are one-dimensional and fail to reflect the preferences and needs of parents. Parents with infants and toddlers, parents of children with disabilities, parents in underserved areas, parents who work nontraditional hours, and families with low income, prefer informal or home-based care — partly due to availability. But subsidies that favor childcare centers push parents into using center-based care. This inadvertently ends up pushing small independent providers — which can't compete with subsidized care — out of the market reducing supply and restricting choice.

Lack of choice is an important issue for parents who work outside the traditional work schedule or who have irregular schedules. Because subsidies encourage the use of center-based care and centers are rarely open outside of traditional working

hours, parents who need care at odd hours are unable to access a licensed provider that meets their needs but is also eligible for assistance.⁴⁷ In their 2011 study, the Urban Institute found that almost one-third of working mothers in poverty and over one-fifth of all parents with children under 13 work nonstandard hours and are more likely to rely on multiple types of care which also means that they are also less likely to receive childcare assistance.⁴⁸

Public assistance programs do not satisfy parental preferences

To access subsidies, a consumer must go to a provider that is eligible to receive money from the government. In most cases, this entails going to a licensed childcare center. Low-income families, however, utilize center-based care at lower rates compared to high-income families.

Generally, most low-income parents utilize a nonpaid relative, friend or parental care at higher rates compared to high-income parents.⁴⁹ And this is not something that subsidies alleviate, according to data from the American Community Survey.⁵⁰ On average, poorer families, especially those with younger kids, are less likely to enroll their kids in center-based care even in the presence of publicly funded programs as illustrated by Figure 16.⁵¹ On the other hand, high-income parents prefer and are more likely to enroll their kids in formal care.

This can also reflect a lack of available and affordable childcare options. But even in that case, poor families do not seem to prefer subsidies. Instead, as shown in Figure 17, families support assistance programs that provide them with the flexibility to access the kind of care they want. Here again, only upper-class families prefer subsidies, which are more easily used in center-based or formal care. Lower-income families on the other hand prefer direct assistance such as cash.

The most likely explanation is that low-income families face unlucrative working options which makes staying home with their children the best option. This is even more likely considering that most assistance programs are associated with in-

come cliffs, whereby a family's slight rise in income excludes them from subsidies but they are still not able to afford childcare, which in some cases discourages work and makes them more likely to stay poor. Also, subsidy programs require a minimum amount of work hours, but a good portion of low-income parents work in sectors that are plagued with nonstandard work hours and unstable schedules.

Subsidies are almost exclusively used in center-based care. In 2019, 72 percent of all children receiving childcare assistance in Minnesota were in licensed childcare centers, compared to just 15 percent in family childcare.⁵² Meanwhile, in the same year, 48 percent of all childcare capacity was in family childcare. In short, parents who prefer to stay home or use other types of care are punished by childcare subsidies.

Public assistance programs are associated with negative outcomes

Public childcare programs like state funded universal Pre-K do help parents return to the workforce. But sometimes this development comes at the detriment of a child's well-being.

In a recently published study, children who attended Tennessee's state funded Pre-K program were compared to other children who did not go through the program — due to a shortage of slots — to see how they fared through the sixth grade. The study found that children enrolled in the state program “had lower state achievement test scores in third through sixth grades than control children, with the strongest negative effects in sixth grade.” Moreover, the children were also more likely to misbehave and face disciplinary action and more likely to need special education.⁵³

These types of results have also been seen outside of the U.S. In Quebec, universal childcare increased maternal labor supply but worsened behavioral and health outcomes in children and led to “more hostile, less consistent parenting, worse parental health, and lower-quality parental relationships.”⁵⁴ Moreover, these effects persisted to school age and beyond. According to one study, “cohorts

with increased childcare access had worse health, lower life satisfaction, and higher crime rates later in life”.⁵⁵

Certainly, public programs can have some positive outcomes. But these positive outcomes are usually associated with high-quality, small-scale, and intensive programs that are targeted toward disadvantaged groups, like children from low-income families.⁵⁶ A good example is the Perry School Project conducted between 1962 to 1967 in Ypsilanti, Michigan whereby several African American children at risk of failing school were enrolled in a high-quality preschool program and received home visits.

According to research evidence, this program had positive social, cognitive, educational, and health outcomes not only on participants, but their descendants and siblings. Participants in the group were more likely to graduate high school, less likely to be arrested, and likely to have higher earnings compared to non-participants.⁵⁷ Additionally, “children of treated participants have fewer school suspensions, higher levels of education and employment, and lower levels of participation in crime, compared with the children of untreated participants.”⁵⁸

These types of programs, however, bear little resemblance to the large-scale Universal Pre-K programs that legislators push. So, it is highly unlikely that results from small-scale intensive projects can be replicated on a larger scale, especially considering governments have little avenue for controlling quality. In general, large-scale public programs are associated with small positive effects that fade out, or worse, turn negative.⁵⁹

Looking ahead

Looking at the evidence, throwing money at childcare is unlikely to address the lack of high-quality affordable childcare. Legislators need to realize that stringent rules come with higher costs, whether they improve quality or not. Strin-

gent rules also tend to drive other providers out of the market. Subsidies are of little use if parents cannot find providers in the market.

Looking only at center-based care, Minnesota is one of the most expensive states for childcare. But when looking at home-based providers, Minnesota is one of the most affordable states for childcare. According to Child Care Aware of America, in 2017, Minnesota was one of the 15 most-affordable states when considering the cost of home-based care.⁶⁰

This means that any policy solution that pushes out small providers — like subsidies — is likely to increase the cost of childcare in Minnesota since these small providers are more affordable. Moreover, any policy pushing small providers out of the market would have detrimental effects on those

living in greater Minnesota where small providers are more financially feasible and childcare centers are expensive to start up and maintain.

But outside of affordability, small providers also bestow parents with choice. Parents have varying preferences for childcare. In their first annual report, the Legislative Task Force on Access to Affordable Childcare found that

families usually prefer providers that share their culture.⁶¹ And in 2021, a Morning Consult survey reported that even if all types of care were priced the same, 10 percent of surveyed parents would have sent their youngest child to home-based care, and 13 percent would have sent their youngest child to a center affiliated with a faith-based organization.⁶²

Public funding programs do little to encourage new supply or provide choice. Standards that governments use are one-dimensional, do not always reflect the needs and preferences of parents, and are not suitable for other providers — like home-based or faith-based providers. Loosening regulations, on the other hand, would encourage the supply of both small and large childcare providers. ■

“Most low-income parents utilize a nonpaid relative, friend or parental care at higher rates compared to high-income parents.”

Conclusion

Access to affordable high-quality childcare is an important foundation for a well-functioning society. It enables parents to work and earn income, provides a nurturing environment for children's growth and development, and allows businesses to hire workers. The lack of affordable high-quality childcare is detrimental not only to parents, children, and families, but to the entire economy as well.

Expanding funding is, however, unlikely to address the childcare crisis since it does not deal with

the root cause of the crisis: government regulation. Strict staff-child ratios and group limits, as well as strict hiring and training requirements, raise the cost of providing center-based care in Minnesota — costs which are then passed on to parents through higher tuition. To ensure high-quality affordable childcare, legislators should consider reforming regulations that raise costs for providers without improving quality. ■

Endnotes

- 1** ChildCare Aware of America, "Parents and the High Cost of Childcare: 2017 Report," 2019, available at https://www.childcareaware.org/wp-content/uploads/2017/12/2017_CCA_High_Cost_Report_FINAL.pdf.
- 2** ChildCare Aware of America, "Picking up the Pieces: Building a Better Child Care System Post COVID-19," Fall 2020, available at <https://www.childcareaware.org/picking-up-the-pieces/>
- 3** ChildCare Aware of America, "Cost of Care," available at <https://www.childcareawaremn.org/community/cost-of-care/>.
- 4** Minnesota Department of Health, "Childcare: Safe, Affordable and Available Care for Kids," available at <https://www.health.state.mn.us/docs/communities/titlev/childcare.pdf>
- 5** Elizabeth E. Davis, Won F. Lee, and Aaron Sojourner, "Family-Centered Measures of Access to Early Care and Education," *Early Childhood Research Quarterly*, Vol. 47, 2nd Quarter: pp 472-486.
<https://doi.org/10.1016/j.ecresq.2018.08.001>
- 6** Minnesota Department of Human Services, "Legislative Report: Status of Child Care in Minnesota, 2019," February 2020, available at <https://www.lrl.mn.gov/docs/2020/mandated/200311.pdf>.
- 7** United States Census Bureau, "American Community Survey Table ID C23008: Age of own children under 18 years in families and subfamilies by living arrangements by employment status of parents."
- 8** Marnie Werner, "Childcare in Rural Minnesota After 2020: A Unique opportunity", February 2021, Center for Rural Policy and Development, available at <https://www.ruralmn.org/child-care-in-rural-minnesota-after-2020/>
- 9** Center for American Progress, "Child Care deserts", <https://childcaredeserts.org/2018/>
- 10** Center for American Progress, "Mapping America's Childcare Deserts", August 2017, available at <https://www.americanprogress.org/article/mapping-americas-child-care-deserts/>
- 11** Martha Ross & Nicole Bateman, "Meet the Low-wage Workforce," November 2019, available at https://www.brookings.edu/wp-content/uploads/2019/11/201911_Brookings-Metro_low-wage-workforce_Ross-Bateman.pdf
- 12** Bureau of Labor Statistics, "Occupational Employment and Wages, May 2021," available at <https://www.bls.gov/oes/current/oes399011.htm>
- 13** *Ibid.*, Pg. 9
- 14** Rachel Connelly and Jean Kimmel, "The Effect of Child Care Costs on the Employment and Welfare Reciprocity of Single Mothers," *Southern Economic Journal*, Vol.69, No.3(2003): pp.498-519.<https://doi.org/10.2307/1061691>
- 15** Data Resource Center for Child and Adolescent Health, "National Survey of Children's Health (2016 - present), available at <https://www.childhealthdata.org/browse/survey>
- 16** Child care Aware of America, "2015 parents and the high cost of child care," available at <https://www.lcc.leg.mn/tfcc/meetings/160830/Cost%20of%20Care%20presentation-%20MN%20Legislative%20Task%20Force%202016.pdf>
- 17** Ready Nation, "Want to Grow the Economy? Fix the Childcare Crisis," January 2019, available at <https://strongnation.s3.amazonaws.com/documents/602/83bb2275-ce07-4d74-bcee-ff6178daf6bd.pdf>
- 18** Richard Chase, Amanda J. Petersen, Jose Diaz, Nicole MartinRodgers, and Marnie Werner, "The Economic Impacts of Child Care Shortage in North Eastern Minnesota," July 2018, available at <https://northlandfdn.org/news/publications/childcare-shortage-report-2018.pdf>
- 19** Rob Grunewald, "How a COVID-19 10-Person Group Limit Affects Minnesota's Childcare Providers," Federal Reserve Bank of Minneapolis, June 2020, available at <https://www.minneapolisfed.org/article/2020/how-a-covid-19-10-person-group-limit-affects-minnesotas-child-care-providers>
- 20** Tu-Uyen Tran, "As Pandemic Dragged on, Minnesota Child Care Providers Faced Enrollment, Financial Crises," May 2021, available at <https://www.minneapolisfed.org/article/2021/as-pandemic-dragged-on-minnesota-child-care-providers-faced-enrollment-financial-crises>
- 21** Federal Reserve Bank of Minneapolis and First Children's Finance, "Regional Economic Conditions: Health of Minnesota child care sector," available at <https://www.minneapolisfed.org/-/media/assets/events/2021/regional-economic-conditions-health-of-the-minnesota-child-care-sector/regional-economic-conditions-health-of-the-minnesota-child-care-sector.pdf?la=en>
- 22** *Ibid.*, pg. 8
- 23** The Committee for Economic Development of the Conference Board, "Childcare in State Economies: 2019 Update," available at <https://www.ced.org/assets/reports/childcareimpact/181104%20CCSE%20Report%20Jan30.pdf>
- 24** Minnesota Department of Human Services.
- 25** *Ibid.*, pg. 7

- 26** V. Joseph Hotz and Mo Xiao, "The Impact of Regulations on the Supply and Quality of Care in Child Care Markets," *American Economic Review*, Vol.101, No.5 (2011): pp 1775-1805. <https://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.101.5.1775>
- 27** Janet Currie and V. Joseph Hotz, "Accidents will happen? Unintentional Childhood Injuries and the Effects of Child Care Regulations," *Journal of Health Economics*, Vol. 23, No. 1 (2004): pp. 25-59. <https://pubmed.ncbi.nlm.nih.gov/15154687/>
- 28** Diana W. Thomas and Devon Gorry, "Regulation and the Cost of Child Care," August 2015, *Mercatus Working Paper*, available at <https://www.mercatus.org/system/files/Thomas-Regulation-Child-Care.pdf>
- 29** Randall Heeb and M. Rebecca Kilburn, "The Effects of State Regulations on Childcare Prices and Choices," *Rand Corporation Working paper*, January 2004, available at https://www.rand.org/content/dam/rand/pubs/working_papers/2004/RAND_WR137.pdf
- 30** David M. Blau, "Unintended Consequences of Child Care Regulations," *Journal of Labor economics*, Vol.13, No.3 (2007): p. 513-538. <https://doi.org/10.1016/j.labeco.2006.01.003>
- 31** *Ibid.*, pg. 16
- 32** *Ibid.*, pg. 16
- 33** Minnesota Department of Human Services, "Ratio and Group Size Standards for Licensed Child care: Fact Sheet," November 2016, available at <https://www.dhs.state.mn.us/main/groups/licensing/documents/defaultcolumns/dhs-292309.pdf>
- 34** Minnesota Legislature "Minnesota Administrative Rules, chapter 9503, Part 9503.0032," <https://www.revisor.mn.gov/rules/9503.0032/>
- 35** Office of the Revisor of Statutes, "Minnesota Administrative Rules, Chapter 9503, Part 9503.0033," <https://www.revisor.mn.gov/rules/9503.0033/>
- 36** Alice Sterling Honig and Andrea Hirallal, "Which Counts more for Excellence in Childcare Staff — Year sin Service, Education or ECE Coursework?" *Journal of Early Child Development and Care*, Vol.145, No. 1, 1998. <https://doi.org/10.1080/0300443981450103>
- 37** Diane M. Early, et. Al, "Teachers' Education, Classroom Quality, and Young Children's Academic Skills: Results from Seven Studies of Preschool Programs," *Journal of Child Development*, Vol.78. No.2, Mar-April 2007, <https://doi.org/10.1111/j.1467-8624.2007.01014.x>
- 38** David M. Blau, "The production of Quality in Child-care centers: Another look," *Journal of Applied Developmental Science*. Vol.4, No.3 (2010): pp 136-148. DOI: https://doi.org/10.1207/S1532480XADS0403_3
- 39** Andre J. Mashburn, Robert C. Pianta, Oscar A. Barbarin, Donna Bryant, Bridget K. Hamre, Jason T. Downer, Margaret Burchinal, Diane M. Early and Carollee Howes, "Measures of Classroom Quality in Prekindergarten and Children's Development of Academic, Language, and Social Skills," *Child Development*, Vol. 79, No.3 (2008): pp 732-749. <http://www.jstor.org/stable/27563514>
- 40** U.S. Department of Health and Human Services, "The NiCHD Study of Early Child Care and Youth Development: Findings for Children up to Age 4 1/2 Years," 2006, Available at https://www.nichd.nih.gov/sites/default/files/publications/pubs/documents/seccyd_06.pdf
- 41** Groover J. (Russ) Whitehurst, "Why the Federal Government Should Subsidize Childcare and How to Pay for it," *Brookings*, March 2017, available at https://www.brookings.edu/wp-content/uploads/2017/03/es_20170309_whitehurst_evidence_speaks3.pdf
- 42** U.S. Department of Health and Human Services, "Head Start Research: Head start impact study final report," January 2010, available at https://www.acf.hhs.gov/sites/default/files/documents/opre/executive_summary_final_508.pdf
- 43** Rachel Greszler, "Government Childcare Subsidies: Whom Will they Help Most?" *The Heritage Foundation*, October 2021, available at <https://www.heritage.org/sites/default/files/2021-10/IB5231.pdf>
- 44** Bruce Fuller and Xiaoyan Liang, "Market Failure? Estimating Inequality in Preschool Availability," *Education Evaluation and Policy Analysis*, Vol. 18, No. 1 (1996): pp. 31-49. <https://doi.org/10.2307/1164229>
- 45** Erin Bultinck, Thanharat Silamonkol, Claire Lowe, Jennifer Cleveland, and Kathryn Tout, "Provider's Perception of Parent Aware: Minnesota's Quality Rating and Improvement System," *Child Trends*, January 2019, available at <https://edocs.dhs.state.mn.us/lfsrserver/Public/DHS-7859-ENG>
- 46** Minnesota Department of Human Services, "Parent Aware by the Numbers," April 2018, available at <https://edocs.dhs.state.mn.us/lfsrserver/Public/DHS-7086Ab-ENG>
- 47** Angela Rachidi, "Child Care Assistance that Meets the Needs of all Poor Working Families," *American Enterprise Institute*, March 2016, available at <https://www.aei.org/articles/child-care-assistance-that-meets-the-needs-of-all-poor-working-families/>
- 48** María E. Enchautegui, Martha Johnson, and Julia Gelatt, "Who Minds the Kids When Mom Works a Nonstandard Schedule?" *Urban Institute*, July 2015, available at <https://www.urban.org/sites/default/files/publication/64696/2000307-Who-Minds-the-Kids-When-Mom-Works-a-Nonstandard-Schedule.pdf>
- 49** Angela Rachidi, "How do Low-Income Families Pay for Child Care?" *American Enterprise Institute*, October 2019, available at <https://www.aei.org/poverty-studies/how-do-low-income-families-pay-for-child-care/>
- 50** American Compass, "Home Building Survey part II: Supporting Families," February 2021, available at <https://americancompass.org/essays/home-building-survey-part-2/>

- 51** Lyman Stone, "More Choice Fewer Costs: Four Key Principles to Guide Childcare Policy," Institute Family Studies, May 2021, available at <https://ifstudies.org/blog/more-choice-fewer-costs-four-key-principles-to-guide-child-care-policy>
- 52** *Ibid.*, pg. 7
- 53** Kelley Durkin, Mark W. Lipsey, Dale C. Farran & Sarah E. Wiesen, "Effects of a State-wide Pre-Kindergarten Program on Children's Achievement and Behavior through Sixth Grade," *Development Psychology*, Vol.58, No.3 (2022): pp 470-484. <https://doi.org/10.1037/dev0001301>
- 54** Michael Baker, Jonathan Grube, and Kevin Milligan, "Universal Childcare, Maternal Labor Supply and Family Well-Being," National Bureau of Economic Research, Working Paper No. 11832, https://www.nber.org/system/files/working_papers/w11832/w11832.pdf
- 55** Michael Baker, Jonathan Gruber, and Kevin Milligan, "The Long-Run Impacts of a Universal Child Care Program," *American Economic Journal: Economic Policy*, Vol. 11, No.3 (2019): pp 1-26. <https://pubs.aeaweb.org/doi/pdfplus/10.1257/pol.20170603>
- 56** Eric Dearing, Kathleen McCartney, Beck A. Taylor, "Does Higher Quality Early Childcare Promote Low-Income Children's Math and Reading Achievement in Middle Childhood?" *Child Development*, Vol.80, No.5 (2009): pp 1329-1349. DOI: 10.1111/j.1467-8624.2009.01336.x
- 57** Lawrence J. Schweinhart, Helen V. Barnes, and David P. Weikart, "Significant Benefits: The high/scope Perry Preschool Project Through Age 2,7" High/Scope Foundation, Ypsilanti Michigan, 1993.
- 58** James J. Heckman and Ganesh Karapakula, "Intergenerational and Intragenerational Externalities of the Perry Preschool Project," National Bureau of Economic Research, Working paper No. 25889, May 2019. <https://www.nber.org/papers/w25889>
- 59** *Ibid.*, pg. 29
- 60** Child Care Aware of America, "The US and the High Price of Childcare: An examination of a Broken System," 2019, available at https://cdn2.hubspot.net/hubfs/3957809/2019%20Price%20of%20Care%20State%20Sheets/Final-TheUSandtheHighPriceofChildCare-AnExaminationofaBrokenSystem.pdf?utm_referrer=https%3A%2F%2Fwww.childcareaware.org%2F
- 61** Minnesota Legislature, "Legislative Task Force on Access to Affordable Childcare: Report and Recommendations to the Minnesota Legislature," January 2017, available at <https://www.lcc.leg.mn/tfcc/meetings/Child%20Care%20Report%202017.pdf>
- 62** Morning Consult, "National Tracking Poll," December 2020, available at <https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2021/01/Parent-Survey.Toplines.pdf>





8421 Wayzata Boulevard ★ Suite 110
Golden Valley, MN 55426

AmericanExperiment.org

NON-PROFIT ORG
U.S. POSTAGE
PAID
TWIN CITIES, MN
PERMIT NO. 4546

To obtain copies of this report or to subscribe to the Center's free quarterly magazine, *Thinking Minnesota*, email Peter Zeller at Peter.Zeller@AmericanExperiment.org or call (612) 338-3605.