

# Well-being of Parents and Children During the COVID-19 Pandemic: A National Survey

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abstract

**BACKGROUND:** As the coronavirus disease pandemic spread across the United States and protective measures to mitigate its impact were enacted, parents and children experienced widespread disruptions in daily life. Our objective with this national survey was to determine how the pandemic and mitigation efforts affected the physical and emotional well-being of parents and children in the United States through early June 2020.

**METHODS:** In June 2020, we conducted a national survey of parents with children age <18 to measure changes in health status, insurance status, food security, use of public food assistance resources, child care, and use of health care services since the pandemic began.

**RESULTS:** Since March 2020, 27% of parents reported worsening mental health for themselves, and 14% reported worsening behavioral health for their children. The proportion of families with moderate or severe food insecurity increased from 6% before March 2020 to 8% after, employer-sponsored insurance coverage of children decreased from 63% to 60%, and 24% of parents reported a loss of regular child care. Worsening mental health for parents occurred alongside worsening behavioral health for children in nearly 1 in 10 families, among whom 48% reported loss of regular child care, 16% reported change in insurance status, and 11% reported worsening food security.

**CONCLUSIONS:** The coronavirus disease pandemic has had a substantial tandem impact on parents and children in the United States. As policy makers consider additional measures to mitigate the health and economic effects of the pandemic, they should consider the unique needs of families with children.



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Dr Patrick conceptualized the study, was involved in conducting the analysis and in interpretation of the results, drafted the initial manuscript, and approved the final manuscript as submitted; Dr Davis conceptualized the study, was involved in conducting the analysis and in interpretation of the results, and approved the final manuscript as submitted; Ms Halvorson conducted the analysis, was involved in interpretation of the results, and revised and approved the manuscript as written; Drs Henkhaus and Zickafoose and Ms Lovell, Ms Letterie, and Ms Loch were involved in the analytic plan and interpretation of the results and revised and approved the manuscript as written; and all authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

**WHAT'S KNOWN ON THIS SUBJECT:** The coronavirus disease 2019 (COVID-19) pandemic and protective measures associated with it created widespread disruptions in daily life of US parents and children. Families with children disproportionately live in poverty, potentially increasing their risk to COVID-19-related economic distress and difficulties sustaining basic needs.

**WHAT THIS STUDY ADDS:** COVID-19 has had a substantial impact on the well-being of parents and children. As policy makers consider additional measures to mitigate the health and economic effects of the pandemic, they should consider the unique needs of families with children.

**To cite:** Patrick SW, Henkhaus LE, Zickafoose JS, et al. Well-being of Parents and Children During the COVID-19 Pandemic: A National Survey. *Pediatrics*. 2020;146(4):e2020016824

The emergence of coronavirus disease 2019 (COVID-19) has had a sudden and profound effect on communities nationwide. As cases and deaths due to the novel virus increased, protective measures such as physical distancing were enacted to mitigate the virus' spread,<sup>1</sup> resulting in abrupt closures of schools, child care, community programs, and workplaces. These changes have resulted in social isolation, psychological distress among adults,<sup>2</sup> and substantial economic distress,<sup>3</sup> with the highest level of unemployment since the Great Depression.<sup>4</sup>

Families with children have faced myriad stresses from losses of economic and psychological support for parents and their children. In addition, families with children disproportionately live in poverty,<sup>5</sup> potentially increasing the risk of economic distress through acute job loss and related difficulties sustaining basic needs, such as food security and reliable child care. Each of these stressors, in turn, may increase psychological strain on families. Government agencies<sup>6</sup> and professional organizations<sup>7</sup> have expressed concern that children, in particular, may be at increased risk for psychological disturbances. Despite concern that parents and children may both be at risk for many of the sequelae associated with the COVID-19 pandemic, data on the impact of COVID-19 on these populations are sparse.

Our objective with this national survey of parents with children <18 years old was to determine how the COVID-19 pandemic and mitigation efforts affected the physical and emotional well-being of parents and children in the United States. We further aimed to examine how the economic downturn due to COVID-19 affected health insurance status, caregiver responsibilities, and supports to mitigate hunger:

## METHODS

### Data Collection

We fielded the Vanderbilt Child Health COVID-19 Poll from June 5 to 10, 2020, using the Ipsos KnowledgePanel, a large online research panel created by using probability-based address sampling of US households.<sup>8-13</sup> Households without Internet at the time of recruitment are provided with an Internet-enabled tablet. Participants in KnowledgePanel receive nominal periodic incentives to participate. This study of unidentified persons was considered exempt from human subjects review by the Vanderbilt University Medical Center Institutional Review Board.

### Survey Methods

For this survey, we included parents in KnowledgePanel with at least 1 child in the household <18 years old. Eligible participants were randomly selected from the standing panel, sent an e-mail notification, and sent a subsequent reminder 3 days later. This survey had a 50% completion rate,<sup>14</sup> with a total of 1011 responses. Survey weights were designed to provide national estimates of parents with children <18 years of age, accounting for differential nonresponse. Benchmarks for survey weighting were obtained from the 2019 March Supplement of the Current Population Survey<sup>15</sup> for all variables, except for language proficiency, which was obtained from the 2018 American Community Survey.<sup>16</sup> Survey weights were constructed by first ranking geodemographic distributions of the ≥18-years parent population with children ages 0 to 17 years. Once all survey data were collected, design weights were adjusted to account for differential nonresponse. The following demographic data were collected and used in survey weights: respondent self-identified sex (male and female), respondent age (18-34, 35-44, 45+), race and ethnicity

(white and non-Hispanic, Black and non-Hispanic, other and non-Hispanic, Hispanic, 2+ races and non-Hispanic), census region (Northeast, Midwest, South, and West), metropolitan status (metro and nonmetro), education (less than high school, high school, some college, bachelor or higher), annual household income (<\$25 000, \$25 000-\$49 999, \$50 000-\$74 999, \$75 000-\$99 999, \$100 000-\$149 999, ≥\$150 000), and language (Supplemental Information).

### Survey Instrument

We developed the survey instrument to capture changes in physical, mental (parent), and behavioral (child) health; health insurance status; food security; use of public food assistance resources; child care; and use of health care services. We adapted questions from the National Survey of Children's Health on food security, enrollment in food assistance programs (eg, the Special Supplemental Nutrition Program for Women, Infants, and Children [WIC] and the Supplemental Nutrition Assistance Program [SNAP]), and health insurance.<sup>17</sup> We constructed additional questions to capture changes in the physical health of parents and children, parents' mental health, children's behavioral health, children's insurance status, and child care. For all questions about changes, we asked respondents to use March 2020 as the reference point for the period before or at the beginning of the pandemic. We also asked questions about delays in medical care among children (Supplemental Information). We categorized food insecurity as mild ("we could always afford enough to eat but not always the kinds of food we should eat"), moderate ("sometimes we could not afford enough to eat"), and severe ("often we could not afford enough to eat"). The survey was available in English and Spanish.

## Data Analysis

We conducted all analyses using survey weights to provide national estimates. Descriptive statistics were calculated to summarize response frequency. Respondents who refused to answer a question were considered missing and not used in calculating proportions. All questions had <0.5% refusals. We report all summary statistics as the weighted proportion estimate with its 95% confidence interval (CI). We conducted significance testing for unpaired questions using Rao-Scott corrected  $\chi^2$  tests. For paired testing of questions that asked for pre- and post-COVID-19 comparisons, we used global *P* values from McNemar and Exact Multinomial tests for symmetry. The significance level was set at  $\alpha = .05$ , and all tests were 2-sided. All analyses were conducted by using R version 3.6.2 (R Core Team, Vienna, Austria).

## RESULTS

### Changes in Health Status, Health Insurance, and Health Care Delays

Compared to March 2020, 26.9% (95% CI: 23.9% to 29.9%) of parents reported worsening of mental health, and 14.3% (95% CI: 12.0% to 16.7%) reported worsening in their children's behavioral health (Fig 1). For physical health, 17.7% (15.0% to 20.3%) of parents reported a worsening of their own, and 3.8% (2.5% to 5.1%) reported a worsening of their children's.

The reported declines in mental health for parents, behavioral health for children, and physical health were similar across respondents from most racial and ethnic, income, and education groups and US Census Regions, but female and unmarried parents reported higher rates of worsening of their own mental health. Furthermore, a higher proportion of families with younger children reported worsening mental and behavioral health when compared

with families with older children (Table 1). Approximately 1 in 10 (9.6%, 7.6%–11.7%) parents reported worsening of both their mental health and their children's behavioral health (Supplemental Tables 4 and 5).

Parents reported statistically significant differences in the source of their children's health insurance compared to March 2020, with a decrease in employer-sponsored insurance, small increases in other sources of private insurance and public insurance, and no substantial change in the proportion who were uninsured (Table 2; *P* < .001). Slightly more than one-third (39.9%, 36.6%–43.2%) of families reported cancellations or delays in their children's health care since March 2020. The most commonly delayed visit types were well-child visits (49.4%, 44.0%–54.7%), visits with subspecialists (13.0%, 9.5%–16.5%), and behavioral health visits (9.4%, 6.3%–12.5%) (Supplemental Table 6).

### Food Security

Parents reported more food insecurity at the time of the survey compared to March 2020, with the proportion reporting any food insecurity increasing from 32.6% (29.4%–35.8%) to 36.0% (32.7%–39.3%) (Table 2 and Supplemental Table 9). Parents did not report significant changes in enrollment in SNAP or WIC. There was a statistically significant difference in parents reporting the use of food banks or pantries before and after March 2020, but the absolute increase was small (0.3 percentage points). An estimated 17.5% (14.8%–20.1%) of parents reported that their children received free or reduced-price lunch at schools before the pandemic, making them eligible for free school-related food programs and the Pandemic Electronic Benefit Transfer (P-EBT) program during COVID-19. At the

time of the survey, 15.4% (12.9%–17.8%) of all parents reported receiving free food from schools for their children, and 5.0% (3.5%–6.5%) reported enrollment in the P-EBT program.

### Child Care

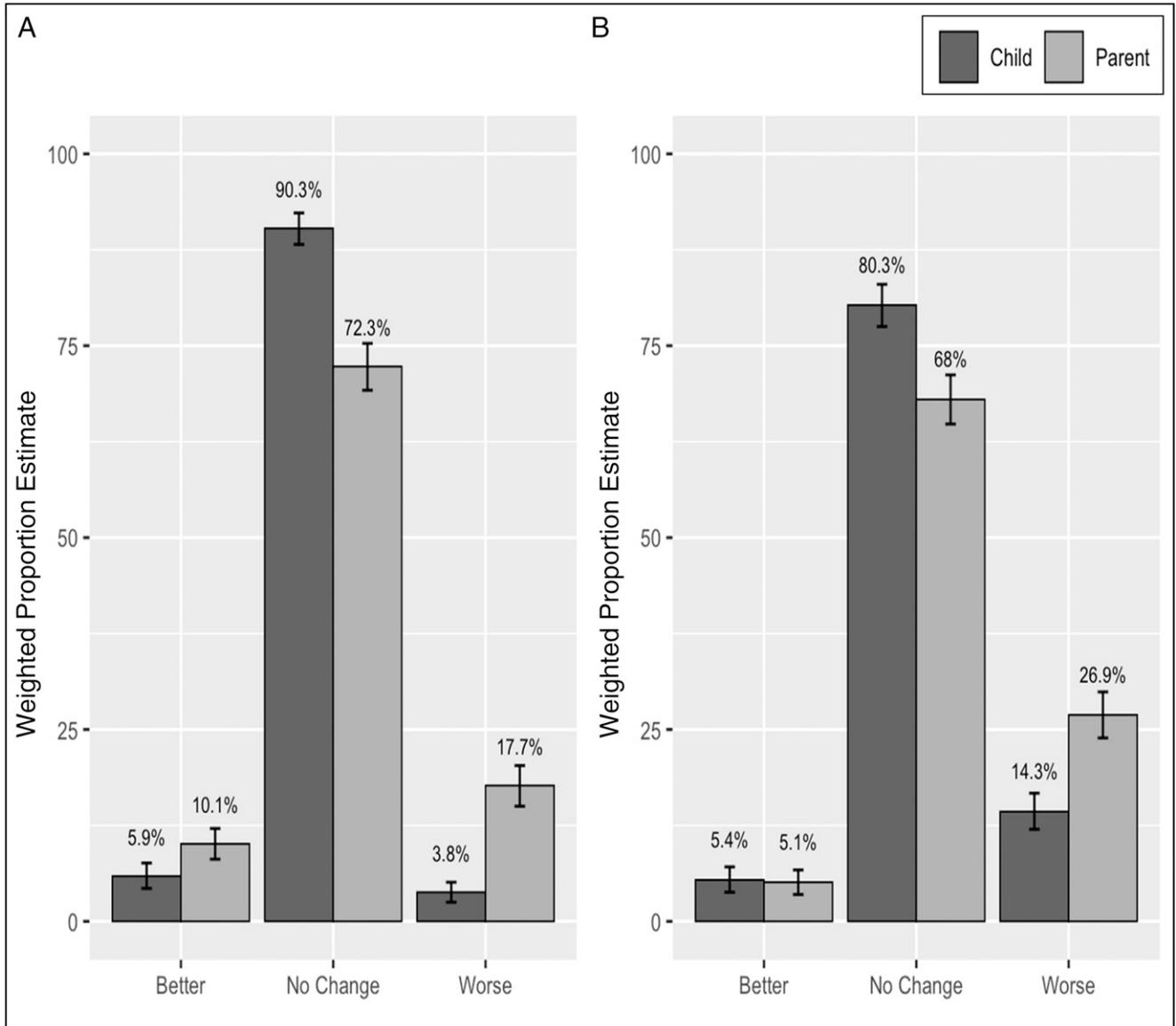
Disruptions in child care were common, with nearly one-quarter (24.1%, 21.1%–27.1%) of parents reporting loss of regular child care. Among parents who lost child care, the majority (74.1%, 67.6%–80.7%) reported that their child was watched by a parent (Supplemental Table 7). Disruption of regular child care varied substantially by the age of the children in the home. For homes with children 0 to 5 years old, 38.6% (33.4%–43.7%) experienced disruptions, compared with 7.5% (4.9%–10.1%) of families with adolescents 13 to 17 years old (Supplemental Table 8).

### Factors Co-Occurring With Parent Mental Health and Child Behavioral Health

Among the 10% of families in which parents reported worsening of both their own mental health and their children's behavioral health, 47.6% (36.3%–58.9%) lost regular child care during the pandemic, and 11.1% (3.7%–18.5%) also reported less food security (Table 3).

## DISCUSSION

Parents and children have been substantially affected by the COVID-19 pandemic. More than 1 in 4 parents reported worsening mental health, and 1 in 7 parents reported worsening behavioral health for their children since the pandemic began. Worsening of parental mental health and children's behavioral health were at times intertwined, with nearly 1 in 10 families reporting worsening of both. Loss of child care, delays in health care visits, and worsened food security were common among



**FIGURE 1** Parental physical and mental health and child physical and behavioral health changes since March 2020. A, Parental and child physical health changes. B, parental mental health and child behavioral health changes. Differences in health status between parents and children  $P < .001$  by Rao-Scott corrected  $\chi^2$  test.

families experiencing worse mental and behavioral health.

Disruption in routines can be detrimental for children, especially those already with behavioral health diagnoses.<sup>18</sup> For some children, this is complicated by challenges accessing traditional office-based services and the loss of mental health services that students may receive at school.<sup>19</sup> In a recent poll, it was found that parents were worried about how

school closure was affecting their children's mental and emotional health,<sup>20</sup> and similar disruptions are evident in our study. The American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry,<sup>21</sup> and the American Psychiatric Association<sup>21</sup> recently released guidance on school reopening that addresses physical and mental well-being of children. These recommendations suggest that schools prepare for a range of mental

health conditions among children, provide enhanced training for teachers, engage mental health professionals in COVID-19-related messaging to children, address the mental health needs of staff, and focus additional resources for children with special needs. The issues around school openings across the United States are complex, and plans will vary by community. In some communities, school will be remote, and schools should consider

**TABLE 1** Proportion of Parents and Children With Reported Worsening Physical, Mental, and Behavioral Health Since March 2020 by Demographic Groups

Reference Before March 2020	Parent		Child	
	Physical Health, Weighted % (95% CI)	Mental Health, Weighted % (95% CI)	Physical Health, Weighted % (95% CI)	Behavioral Health, Weighted % (95% CI)
<b>Parent education</b>				
High school or less ( <i>n</i> = 343)	12.5 (8.4 to 16.6)	23.3 (18.1 to 28.6)	2.9 (0.8 to 5.0)	11.8 (7.9 to 15.6)
Some college ( <i>n</i> = 261)	20.5 (14.9 to 26.1)	28.1 (21.9 to 34.4)	4.5 (1.5 to 7.5)	16.8 (11.6 to 22.1)
4-y college degree or more ( <i>n</i> = 407)	20.2 (16.0 to 24.3)	29.0 (24.5 to 33.5)	4.1 (2.1 to 6.1)	14.9 (11.4 to 18.3)
<b>Race and ethnicity</b>				
White non-Hispanic ( <i>n</i> = 579)	16.8 (13.8 to 19.8)	29.0 (25.3 to 32.6)	2.7 (1.5 to 3.9)	15.8 (12.8 to 18.8)
Black non-Hispanic ( <i>n</i> = 109)	16.4 (7.6 to 25.2)	26.1 (15.3 to 37.0)	2.1 (−0.8 to 4.9)	15.0 (7.1 to 22.9)
Hispanic ( <i>n</i> = 221)	17.6 (11.4 to 23.8)	20.4 (13.9 to 26.8)	5.2 (1.6 to 8.7)	11.1 (6.1 to 16.0)
Other ( <i>n</i> = 103)	24.0 (13.4 to 34.5)	29.6 (18.6 to 40.6)	9.0 (1.7 to 16.4)	12.2 (3.8 to 20.5)
<b>Income</b>				
<25 000 ( <i>n</i> = 91)	19.1 (10.2 to 28.1)	22.7 (13.1 to 32.3)	5.5 (−0.6 to 11.6)	17.6 (8.6 to 26.6)
25 000–<50 000 ( <i>n</i> = 164)	19.2 (11.9 to 26.6)	30.1 (21.7 to 38.6)	7.1 (2.4 to 11.9)	15.0 (8.7 to 21.3)
50 000–<100 000 ( <i>n</i> = 313)	14.7 (10.2 to 19.2)	26.2 (20.8 to 31.6)	1.6 (0.3 to 2.9)	15.8 (11.2 to 20.4)
>100 000 ( <i>n</i> = 444)	18.8 (15.0 to 22.7)	27.0 (22.6 to 31.3)	3.8 (1.9 to 5.7)	12.3 (9.2 to 15.4)
<b>Marital status</b>				
Married ( <i>n</i> = 817)	16.7 (13.9 to 19.5)	25.0 (21.8 to 28.2)	3.5 (2.1 to 4.9)	13.2 (10.7 to 15.7)
Unmarried ( <i>n</i> = 194)	21.6 (14.7 to 28.6)	34.7 (26.7 to 42.7)	4.9 (1.3 to 8.6)	19.0 (12.5 to 25.5)
<b>Parent sex</b>				
Female ( <i>n</i> = 560)	18.5 (14.9 to 22.1)	31.5 (27.3 to 35.8)	3.2 (1.7 to 4.8)	15.8 (12.6 to 19.1)
Male ( <i>n</i> = 451)	16.7 (12.8 to 20.5)	21.1 (17.0 to 25.1)	4.5 (2.3 to 6.7)	12.5 (9.1 to 15.8)
<b>Census region</b>				
Northeast ( <i>n</i> = 163)	19.5 (12.5 to 26.6)	28.7 (20.5 to 36.8)	3.3 (0.2 to 6.4)	18.3 (11.5 to 25.1)
Midwest ( <i>n</i> = 217)	18.8 (13.4 to 24.3)	30.6 (24.0 to 37.1)	3.0 (0.6 to 5.4)	14.9 (9.8 to 19.9)
South ( <i>n</i> = 381)	15.8 (11.5 to 20.1)	23.7 (18.8 to 28.6)	4.1 (1.7 to 6.4)	10.5 (7.1 to 13.9)
West ( <i>n</i> = 249)	18.2 (13.1 to 23.3)	27.3 (21.6 to 32.9)	4.4 (1.7 to 7.2)	17.1 (12.2 to 21.9)
<b>Child(ren) age<sup>a</sup></b>				
0–5 ( <i>n</i> = 462)	20.8 (16.5 to 25.1)	31.4 (26.5 to 36.2)	2.5 (0.8 to 4.2)	17.8 (13.8 to 21.8)
6–12 ( <i>n</i> = 512)	19.9 (16.1 to 23.7)	29.9 (25.6 to 34.2)	5.2 (3.1 to 7.4)	14.9 (11.6 to 18.2)
13–17 ( <i>n</i> = 448)	14.4 (10.9 to 17.9)	22.1 (18.0 to 26.2)	4.1 (2.0 to 6.2)	11.3 (8.4 to 14.3)

<sup>a</sup> Because of the potential of parents to have children in >1 age group, the *n* for this section may sum to larger than the total sample size.

working with pediatricians and mental health professionals on how they may address mental health of children, parents and staff even when school is remote. To implement these strategies effectively, Congress could consider enhanced funding to schools to address schools' budgetary challenges related to implementing these recommendations. To address the mental health needs of children, providing funding to support the availability of telebehavioral health services through schools or other sources in the community and parity of coverage and reimbursement between video and audio-only modalities for children who lack reliable Internet access may be important.

We also observed improvements in behavioral, mental, and physical

health for a subset of the population and no changes in these domains for the majority of the population, highlighting the heterogeneity in the effects of the pandemic and its consequences on families. Notably, we find that rates of worsening parental mental health and child behavioral health are similar among many socio-demographic groups (eg, race, income). However, our results suggest that some populations have been disproportionately affected, including single-parent families and those with younger children. Supports for families who lost regular caregiver support for young children may need to be tailored.

Our findings revealed small but potentially important changes to children's insurance status, with an ~3 percentage point reduction in

employer-sponsored insurance, representing ~2.5 million children. This decrease within just 1 calendar quarter could be due to the large increase in unemployment<sup>4</sup> that occurred during the economic recession that followed social distancing measures. We did not find changes in uninsurance status, suggesting that small increases in Medicaid and private plans on health insurance exchanges may offset some short-term losses of employer-sponsored insurance. However, changes in insurance status and other social influences on health for children should continue to be monitored as the pandemic and the resulting economic effects continue. Congress could consider additional supports to state Medicaid programs through enhancing the federal

**TABLE 2** Changes in Insurance Status, Food Insecurity, and Food Assistance Programs, Before and After March 2020

	Before March 2020, % (95% CI)	Since March, 2020, % (95% CI)	P
Insurance status <sup>a</sup>			<.001
Employer-sponsored insurance	62.7 (59.4 to 66.1)	59.6 (56.3 to 63.0)	
Medicaid or CHIP	22.7 (19.7 to 25.7)	23.3 (20.3 to 26.3)	
Private insurance	3.3 (2.1 to 4.5)	4.5 (3.2 to 5.8)	
Exchange plan	1.8 (1.0 to 2.6)	2.7 (1.6 to 3.7)	
TriCare	3 (1.9 to 4.0)	3.2 (2.0 to 4.4)	
Uninsured	4.1 (2.6 to 5.5)	3.5 (2.2 to 4.8)	
Other	2.4 (1.4 to 3.4)	3.3 (2.1 to 4.5)	
Food insecurity <sup>a</sup>			<.001
None	67.4 (64.2 to 70.6)	64.0 (60.7 to 67.3)	
Mild	26.7 (23.7 to 29.7)	28 (25.0 to 31.1)	
Moderate	4.6 (3.1 to 6.1)	6.2 (4.4 to 8.1)	
Severe	1.3 (0.4 to 2.2)	1.8 (0.7 to 2.8)	
Food assistance programs <sup>b</sup>			
Food stamps or SNAP	10.1 (8.0 to 12.1)	9.5 (7.5 to 11.6)	.256
WIC	5.8 (4.0 to 7.6)	5.8 (4.0 to 7.6)	1.000
Food banks	4.6 (3.1 to 6.2)	4.9 (3.3 to 6.5)	.002
Free or reduced-price school lunch	17.5 (14.8 to 20.1)	—	
P-EBT <sup>c</sup>	—	5.0 (3.5 to 6.5)	
Free food from school	—	15.4 (12.9 to 17.8)	
None	74.4 (71.3 to 77.5)	70.2 (67.0 to 73.4)	.001

CHIP, Children's Health Insurance Program; —, not applicable.

<sup>a</sup> Global P value reported from an exact multinomial test for symmetry between paired before and since March 2020 responses.

<sup>b</sup> P values reported from McNemar tests for symmetry between each paired before and since March 2020 response.

<sup>c</sup> Only families who qualified for free or reduced-price school meals pre-COVID-19 were eligible for P-EBT enrollment.

match,<sup>22,23</sup> employer-sponsored insurance by providing subsidies to families to maintain converge (ie, Consolidated Omnibus Budget Reconciliation Act subsidies), and health insurance exchanges through expanded open enrollment periods.

Nearly 1 in 10 families reported moderate or severe food insecurity since March 2020. Despite the increase in food insecurity, there was not an increase in parents reporting

receipt of SNAP or WIC. We found only a small increase in food bank use; however, it is possible that the use of food banks may be underestimated because families may have received food support from organizations they did not identify as food banks (eg, schools). The Families First Coronavirus Response Act<sup>24</sup> and the Coronavirus Aid, Relief, and Economic Securities Act<sup>25</sup> were signed into law in March 2020 to provide relief from the economic

impact of COVID-19.<sup>26</sup> These laws included provisions authorizing emergency funding for food assistance programs, including additional support for existing SNAP recipients and the establishment of the P-EBT program for families with children who receive free or reduced-price meals at school through the National School Lunch Program. The National School Lunch Program serves 30 million children,<sup>27</sup> making schools an essential source of nutrition for many children, many of whom had been out of school for months at the time of our study. In this study, the uptake of P-EBT was limited, although many families appeared eligible on the basis of participation in other food assistance programs. Early reports on P-EBT suggest uneven adoption among states even as need for the program surged.<sup>28</sup> Our findings suggest additional efforts may be needed to mitigate observed reductions in family food security, including connecting families eligible for existing programs with support through outreach and reduction of administrative burdens.

The results of our study should be interpreted in the context of certain limitations. First, our data were collected at one time point rather than longitudinally. However, the recall period was relatively short (3 months), and our results demonstrating worsening behavioral and mental health for children and parents are qualitatively similar to a panel study early in the pandemic from a large city.<sup>15</sup> Second, our survey respondents had higher levels of socioeconomic status compared with nonrespondents. The potential for nonresponse bias should be mitigated by the relatively rich data on nonrespondents and our approach to survey weights. Finally, our data rely on self-reports rather than clinical health assessments or administrative data on enrollment in programs. Our findings about adult

**TABLE 3** Co-Occurrence of Worsening of Parent Mental Health and Child Behavioral Health With Changes in Food Security, Health Care Delays, Child Care, and Insurance During the COVID-19 Pandemic

	Behavioral and Mental Health Worsening		
	Parent Only, Weighted, % (95% CI)	Child Only, Weighted, % (95% CI)	Both Child and Parent, Weighted, % (95% CI)
Worsened food security	7.4 (3.1 to 11.7)	19.0 (6.3 to 31.6)	11.1 (3.7 to 18.5)
Health care visit delay	45.1 (37.0 to 53.2)	56.9 (42.5 to 71.4)	55.9 (44.8 to 67.0)
Lost regular child care	35.1 (27.2 to 43.0)	45.4 (30.8 to 60.1)	47.6 (36.3 to 58.9)
Change in insurance	7.5 (3.8 to 11.3)	8.7 (1.1 to 16.3)	16.0 (8.0 to 24.0)

mental health, however, are consistent with a recent poll using the validated Kessler 6 Psychological Distress Scale with an adult sample in April 2020.<sup>2</sup>

## CONCLUSIONS

The COVID-19 pandemic is having a substantial tandem impact on parents and children in the United States. As policy makers consider additional measures to mitigate the health and economic effects of the

pandemic, they should consider the unique needs of families with children, including support for mental and behavioral health and efforts to improve food security.

## ACKNOWLEDGMENTS

We thank William Dupont, PhD, and Elizabeth McNeer, MS, for their statistical input on this article.

## ABBREVIATIONS

CI: confidence interval  
COVID-19: coronavirus disease 2019  
P-EBT: Pandemic Electronic Benefit Transfer  
SNAP: Supplemental Nutrition Assistance Program  
WIC: Special Supplemental Nutrition Program for Women, Infants, and Children

**DOI:** <https://doi.org/10.1542/peds.2020-016824>

Accepted for publication Jul 17, 2020

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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**FINANCIAL DISCLOSURE:** The authors have indicated they have no financial relationships relevant to this article to disclose.

**FUNDING:** No external funding.

**POTENTIAL CONFLICT OF INTEREST:** The authors have indicated they have no potential conflicts of interest to disclose.

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