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# COVID-19 Health Disparities and the Economic Security of Families with Children

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# Abstract

This project contributes to our understanding of the causes of COVID-19 health disparities and their impact on the economic security of families with children. Focusing on children and their caregivers, our analysis compares groups of families with long and severe COVID-19 experiences to those with mild COVID-19 symptom experiences and those without COVID-19 diagnoses. We find that households with lingering and severe COVID symptoms are much more likely to have faced economic distress. They were 53 percent more likely to experience job loss, 81 percent more likely to have a reduction in earnings, 90 percent more likely to experience financial difficulty, and 57 percent less likely to access balanced meals than were households where individuals experienced mild or no COVID symptoms. The estimated associations are more pronounced for households of color and households within 400 percent of the federal poverty line before the pandemic started.

These findings suggest that children—as well as households as a whole—have long-term consequences when a household member suffers from long-lasting COVID conditions. As more formal diagnoses for long COVID are established, policymakers may need to augment support systems to mitigate economic damage to households with children. As the ADA now considers long COVID a disability, we discuss potential policy responses to rapidly sustain financial security among households struggling because of long COVID: (1) educating the public about SSI and DI application processes surrounding long COVID, (2) expediting the SSI/DI application processes, and (3) extending state unemployment insurance for households with long COVID.

# 1. Introduction

The COVID-19 pandemic has disproportionately affected racial and ethnic minority groups in the United States, exposing and exacerbating longstanding systemic and social inequities (Centers for Disease Control and Prevention 2022a; 2020). The social, economic, and health disruptions caused by the pandemic may have been particularly harmful to economically vulnerable families with children. One in five children has experienced the job loss of an adult in their household, and more than 140,000 children have experienced the death of a parent or grandparent caregiver (Gassman-Pines and Gennetian 2020; Hillis et al. 2021). While the CDC continue to monitor post-COVID conditions, few reports have described the impact of long COVID on families (Centers for Disease Control and Prevention 2022b). Additional research to improve our understanding of the burden of long COVID—and the implications for the SSA—is urgently needed (National Academies of Sciences, Engineering, and Medicine 2022). This study leverages new data from the Panel Study of Income Dynamics (PSID) to advance scientific understanding of the causes and consequences of COVID-19 health disparities. Focusing on children and their caregivers, we consider the structural and social inequities that underlie adult COVID-19 health disparities; evaluate the impact of a parent's or caregiver's COVID-19–related illness, hospitalization, or disability on family economic security; and explore the extent to which the pandemic has exacerbated preexisting disparities for underserved communities.

This study is closely aligned with structural barriers that may contribute to disparities by race and ethnicity and, particularly, the impact of COVID-19 on the economic security of persons from underserved communities. The findings from this research help us to better understand how lingering post-COVID health problems affect the economic security and well-being of families.

In this paper, we use data from the PSID across two waves—2019 and an early release of 2021 data—to document how economic security changed for households where at least one adult had a COVID diagnosis with lingering or severe consequences compared to those households where adults had no diagnosis or mild symptoms. We limit our sample to households with children in order to establish how long COVID could potentially harm families. While the data are panel in nature, many of the outcomes in the 2021 early release were not also collected in 2019. This means while we can control for 2019 economic, demographic, and geographic characteristics, our results should be interpreted as descriptive and not causal.

Our results suggest that those with lingering or severe COVID were substantially more likely to have been laid off or furloughed, to have lost earnings, and to have had financial difficulties compared to those who had mild COVID or no COVID diagnosis. Further, those families where at least one head of household had severe or lingering COVID were more likely to report not having access to balanced meals—an important finding given that we study families with children. Further, the negative relationship between lingering or severe COVID and economic security is greater for non-White respondents and households earning under 400 percent of the federal poverty line.

Taken together, these results show the long-standing association between a severe or lingering bout of COVID and economic security. While many new policies, such as stimulus payments, emergency supplemental unemployment insurance, and an extended Child Tax Credit, helped to stabilize families during the COVID pandemic, long-lasting health problems that removed household heads or spouses from the labor market for a longer time are likely a long-standing problem that needs to be addressed.

While long COVID is now seen as a disability under the ADA,[1] time lags in applying for Social Security disability and the time an individual has to have long COVID symptoms in order to qualify as a disability mean that research may not yet be able to document the rise in applications due to long COVID. Our results suggest that families with children where at least one household head or spouse had lingering or severe COVID between 2020 and 2021 had substantially worse financial security, even after accounting for economic, demographic, and geographic differences across households prior to the COVID pandemic.

While we do not specifically study long COVID, our results can help to inform policymakers on the extent of economic damage coming from long COVID spells, as they e likely underestimate those hardest hit, who are most likely to apply for Social Security disability (DI). We provide three policy responses that could help benefit households struggling from long COVID. First, having clearly defined expectations around long COVID diagnoses for SSI and SSDI applications as well as educating the public and physicians on application processes may smooth the transition. Second, an expedited process to rapidly mitigate financial trouble among struggling households. Third, supplementing and extending state unemployment insurance could

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[1] See, for example, https://www.hhs.gov/civil-rights/for-providers/civil-rights-covid19/guidance-long-covid-disability/index.html.

help households in which adults with long COVID cannot remain in the workforce due to their symptoms.

# 2. Literature Review

## 2.1. Health Shocks and Economic Security

The two primary channels through which prolonged health conditions affect household balance sheets are through labor market exit due to the decline in health, which reduces earnings, and through out-of-pocket costs related to the new health condition. Further, caregiving obligations can put pressure on other household members, potentially limiting their labor market potential.

An existing literature studies the causal effects of health shocks—unanticipated declines in health—on economic and financial security. A leading paper in this literature, Dobkin et al. (2018), uses an event study to show that unexpected hospitalizations increase total balances in collections and increase the likelihood of filing for bankruptcy. They further show that four years post-hospitalizations, credit limits declined, credit scores declined, and consumption fell. Further, income fell by 19 percent post-hospitalization. Follow-up work by Arrieta and Li (2022) use the same event study strategy but look at emergency department visits instead of hospitalizations. They show a 25-percent decline in income and find that after hospitalizations, family members are 132 percent more likely to be caregivers in the subsequent years.

Babiarz and Yilmazer (2017) show that an adverse health effect increases the likelihood of having unsecured debt. The effect is driven by households with fewer financial assets. Again, this effect comes from both higher medical expenses and labor market disruptions. Houle and Keene (2015) show that additional health limitations and chronic conditions increase the risk of mortgage default.

Given the contagious nature of COVID-19, one related paper studies the effects of flu outbreaks on finances. Houle et al. (2015) show that influenza outbreaks harm borrowers who were already struggling, as outbreaks increase only the likelihood of 90- or more day defaults.

This paper takes a descriptive approach to determine if people who had lingering or severe COVID were less economically or financially secure than people who had mild COVID or never had a COVID diagnosis. Two studies in the medical literature consider respiratory diseases and financial outcomes. Khandelwal et al. (2018) looked at financial stress among adult patients who were on a ventilator for over two days and successfully extubated before being discharged from

the ICU. Financial stress was highest among patients six months after returning home, though financial stress among family members was highest at three months. In both cases, over 40 percent of respondents were financially stressed. Kamdar et al. (2017) show that 71 percent of survivors of acute respiratory disease syndrome lost earnings, and 68 percent returned to work within 12 months. Those findings can be compared to the current study.

## 2.2.    COVID and Economic Security

Many researchers have estimated the number of Americans who have contracted COVID and, particularly relevant to this study, have estimated the number of Americans experiencing long COVID. Through October of 2021, the CDC estimated over 100 million working-age Americans had contracted COVID-19.[2] One study finds that 27 percent of people reported symptoms after 61 days; a second study finds that 33 percent of COVID outpatients had long-term symptoms and 31 percent of hospitalized patients had long-term symptoms (Huang et al. 2022; Logue et al. 2021). A 2022 Brookings report takes these numbers together to estimate that one in seven working-age Americans may have experienced long-term COVID, though the report points out that some of these—perhaps even half—have recovered (Bach 2022a).

Taken together, these studies suggest that even those who were not hospitalized could develop long-term symptoms. In our study, we will largely bundle together those with lingering symptoms and those who were hospitalized or had severe COVID symptoms without lingering symptoms.

Early research has looked at the relationship between long COVID and labor force participation. Davis et al. (2021) report that internationally 45 percent of patients with long COVID required a reduction in hours worked and 22 percent were out of work. Other work suggests that long COVID was a large contributor to the labor market shortage (Bach 2022b).

# 3.  Methods and Data

We draw upon data from the Panel Study of Income Dynamics (PSID). Our sample includes individuals living in families with children who participated in both the 2019 and 2021 waves of the PSID. The PSID-2021 Early Release file includes data on mortgage distress, food insecurity, wealth, and how families were impacted by COVID-19 (e.g., infection, disease severity, employment, and pandemic-related financial difficulties). The PSID is an ideal data source for

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[2] See https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/burden.html.

addressing our research aims as it offers a large, diverse sample; timely information about how families were impacted during the COVID-19 pandemic; and a panel structure that will allow us to compare outcomes both across groups and within the same group over time. PSID restricted-use data files include county-level measures of rurality, an important predictor of disability as well as of COVID-19 pandemic-related health outcomes and preventive behaviors.

Combining data from the PSID-2019 and PSID-2021 Early Release file, we define four groups of families with children based on parents' and caregivers' experiences of COVID-19 illness, COVID-19–related hospitalization, or post-COVID health problems (long COVID). Each group is mutually exclusive to include only the most severe situation. For example, if a parent was hospitalized due to COVID-19 and had lingering health concerns, they would only be in Category (1). Our groups include families where:

(1) at least one parent or caregiver has lingering physical or mental health effects from COVID-19,

(2) at least one parent or caregiver had severe COVID-19 symptoms or was admitted to the hospital due to COVID-19,

(3) at least one parent or caregiver was diagnosed with COVID-19 and experienced no, mild, or moderate symptoms only, and

(4) no parent or caregiver was diagnosed with COVID-19.

Families with no or milder cases of COVID-19 illness, i.e., those assigned to groups (3) and (4), are comparison groups for families likely to experience serious and lasting effects of the COVID-19 pandemic, i.e., those assigned to groups (1) and (2). Using these groups, we conduct a series of descriptive analyses comparing families with disparate COVID-19 experiences. Throughout all of our analyses, we use the survey sample weights to account for non-response bias. This regression is presented in Equation (1), where $Y_h$ is an economic, financial, or food security variable for household $h$ in 2021. "Lingering COVID," "Severe COVID," and "Mild COVID" are the groups described above, where each household is assigned only to the most severe category. The comparison category is "No COVID." $X_{h2019}$ represents a vector of demographic, economic, and household characteristics from 2019—before the pandemic began. Specifically, we control for whether the respondent person is White non-Hispanic, whether at least one person in the household did not have health insurance, education categories (high school or less, some college, and college graduate or more), poverty categories (<200 percent FPL, 200–399 percent

FPL, and 400 percent FPL or more), census region fixed dummies, and a dummy for whether a household lived in a non-metro area. $\epsilon_h$ is the error term.

$$Y_h = \alpha_0 + \alpha_1 LingeringCOVID_h + \alpha_2 SevereCOVID_h + \alpha_3 MildCOVID_h + \boldsymbol{\beta X_{h2019}} + \epsilon_h$$
Equation (1)

In a second model (Equation (2), we then bundle together lingering and severe COVID and mild and no COVID to increase power and because we see no meaningful differences across lingering and severe COVID or mild and no COVID in preliminary analyses.

$$Y_h = \alpha_0 + \alpha_1 LingeringSevereCOVID_h + \boldsymbol{\beta X_{h2019}} + \epsilon_h$$
Equation (2)

First, we consider the structural and social inequities that underlie adult COVID-19 health disparities. Structural and social factors that may have contributed to the disproportionate impact of COVID-19 on racial and ethnic minority populations include poverty; education; living in a multigenerational or crowded household; uninsurance; and limited access to healthcare. We use a regression framework to predict a family's assignment to group (1), (2), (3), or (4) as a function of the structural and social factors described above. These analyses use information collected in the PSID-2019 to predict COVID-19 outcomes measured in PSID-2021.

Next, we evaluate the impact of a parent's or caregiver's COVID-19-related illness, hospitalization, or disability on family economic security. Within this domain, key outcome markers include whether someone in the family was laid off or furloughed or lost earnings due to the pandemic; whether the family cut back on spending, put off paying the rent or mortgage, put off paying other bills, used money from retirement savings, drew down on existing equity or lines of credit, or took out a loan to manage financial difficulties; and whether the family worried about having enough food, cut back to conserve food, or ran out of money to buy food. For each of the four groups of families, we will calculate the prevalence of the outcome markers described above using data from the PSID-2019 and the PSID-2021. The panel structure of the PSID allows us to compare outcomes both across groups and within the same group over time.

Finally, we explore the extent to which the COVID-19 pandemic has exacerbated preexisting disparities for underserved communities. We test whether the impacts of a COVID-19 health shock on economic security are greater for Black families, Hispanic families, or lower income families (compared to non-Hispanic White families or families with higher incomes). We draw comparisons across the four groups—or, if needed, across two groups, e.g., families assigned to groups (1) and (2) versus groups (3) and (4)—by race/ethnicity and poverty status. Poverty status will be measured prior to the pandemic using data from the PSID-2019. These findings will help us to better understand the consequences of COVID-19 health disparities and could inform predictions about changes in the distribution of SSDI and SSI applications across racial/ethnic and socioeconomic groups.

## 3.1.  Descriptive Statistics

Figure 1 shows the fractions of respondents who had lingering COVID, severe COVID, mild COVID, and no COVID diagnosis. Six percent of the sample had lingering COVID, four percent had severe COVID, including hospitalization, and 12 percent had a mild or asymptomatic bout of COVID.

Figure 1: Summary Statistics, Likelihood of being in each Group
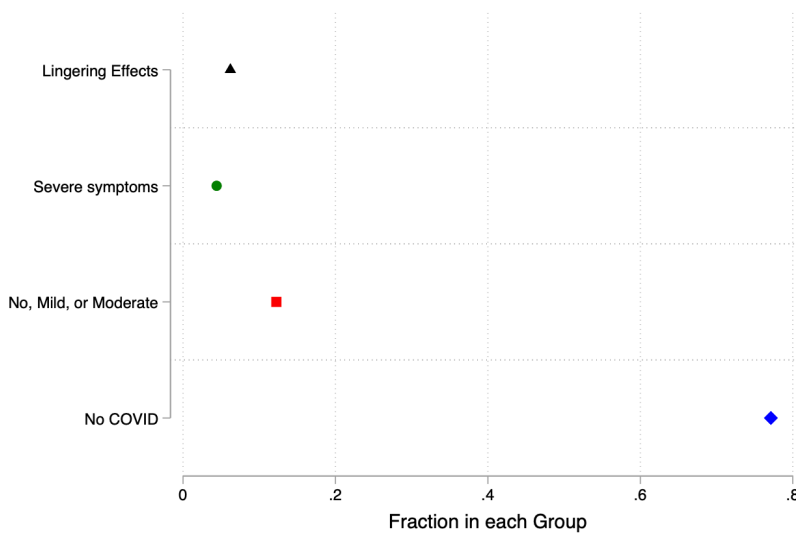


*Notes: Data from households with children and non-missing COVID-19 status from the 2021 PSID. Survey weighted means reported. These means are also reported in Table 1.*

Table 1: Sample Summary Statistics

|  | Mean (SD) | Mean (SD) |
|---|---|---|
| Lingering COVID | 0.06 | 0.06 |
|  | (0.23) | (0.24) |
| Severe COVID | 0.04 | 0.04 |
|  | (0.21) | (0.21) |
| Lingering or Severe COVID | 0.10 | 0.11 |
|  | (0.30) | (0.31) |
| Moderate COVID | 0.11 | 0.12 |
|  | (0.32) | (0.33) |
| Non-white | 0.60 | 0.44 |
|  | (0.49) | (0.50) |
| <200% FPL | 0.38 | 0.29 |
|  | (0.49) | (0.45) |
| 200–399% FPL | 0.32 | 0.33 |
|  | (0.47) | (0.47) |
| 400% FPL+ | 0.30 | 0.37 |
|  | (0.46) | (0.48) |
| HS or less | 0.28 | 0.26 |
|  | (0.45) | (0.44) |
| Some coll. | 0.41 | 0.35 |
|  | (0.49) | (0.48) |
| Coll. grad | 0.32 | 0.38 |
|  | (0.47) | (0.49) |
| No Health Ins. | 0.18 | 0.17 |
|  | (0.39) | (0.37) |
| Northeast | 0.10 | 0.14 |
|  | (0.30) | (0.35) |
| North Central | 0.24 | 0.20 |
|  | (0.43) | (0.40) |
| South | 0.49 | 0.41 |
|  | (0.50) | (0.49) |
| West | 0.17 | 0.24 |
|  | (0.38) | (0.43) |
| Non-metro | 0.15 | 0.14 |
|  | (0.36) | (0.34) |
| Observations | 2392 | 2392 |
|  | No weights | Weights |

*Notes: Data from households with children and non-missing COVID-19 status from the 2019, 2021 PSID. Means reported with standard deviations in parentheses unweighted and weighted.*

Table 1 shows the summary statistics for the sample unweighted (Column 1) and weighted (Column 2). The remainder of the analysis uses sample weights.

## 3.2.    Predicting COVID

Next, we predict the likelihood of having COVID based on demographic, geographic, and economic characteristics using a linear probability model. Figure 2 plots coefficient estimates and, with 95 percent confidence intervals, the likelihood of having either lingering or severe COVID vs. mild or no COVID. In addition to the variables listed, we include controls for region (North Central, South, West, vs. Northeast), though none of those coefficients are statistically different from zero or each other. The predictor that is both economically and statistically different from zero is that non-White respondents are more likely to have experienced lingering or severe COVID than White non-Hispanic respondents. Families at over 400 percent of the federal poverty line are less likely to have lingering or severe COVID than those under 200 percent of the federal poverty line, though the difference is not statistically different from zero.

Figure 2: Predicting Severe and Lingering COVID vs. Mild or No COVID
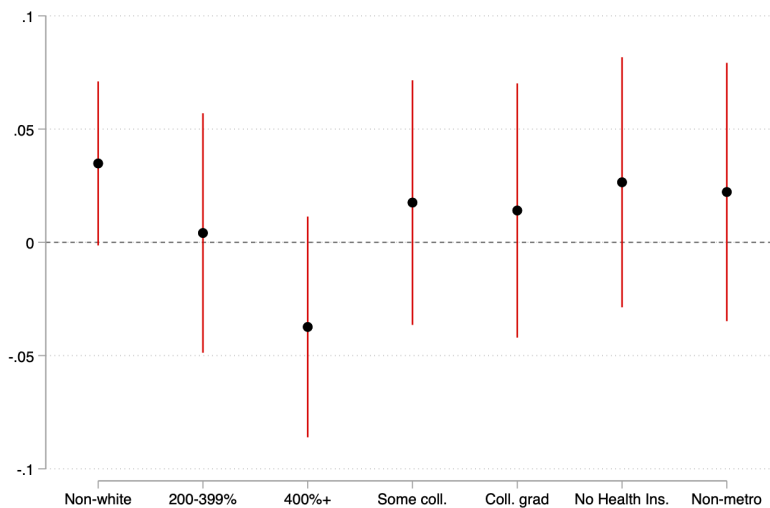


*Notes: Data from households with children and non-missing COVID-19 status from the 2019, 2021 PSID. Survey weighted regression coefficients reported with 95 percent confidence intervals. LPM regressions predict severe or lingering COVID vs. mild or no COVID by characteristics from 2019.*

# 4.Results

Our results report the difference between adults with children who had severe or lingering COVID as of 2021 and those who had mild or asymptomatic cases of COVID or no COVID diagnosis. Table 2 starts with labor market outcomes, where we additionally break down all of the four categories in Columns (1)–(2). Experiencing lingering COVID results in a 13–percentage point greater likelihood of being laid off or furloughed and a 26–percentage point greater likelihood of having a drop in earnings. Severe—but not lingering COVID—results in a 10–percentage point greater likelihood of being laid off or furloughed and a 21–percentage point greater likelihood of having a drop in earnings when compared to families where no adult experienced COVID. However, the first association is not statistically different from zero, and the associations between lingering COVID and economic outcomes and severe COVID and economic outcomes are not statistically different from each other. There is no difference statistically or economically across the mild COVID and no COVID categories. For the remainder of the analyses, we combine the lingering and severe categories to increase power.

Columns (3)–(4) show that those with severe or lingering COVID were 12 percentage points more likely to have been laid off or furloughed and 25 percentage points more likely to have lost earnings. These results are large in magnitude, representing 52 and 81 percent of mean rates, respectively, but they match findings in prior literature. For example, Perlis et al. (2023) find that compared to other people with positive COVID tests, those with long COVID symptoms were 25 percent less likely to be employed. Since our study instead compares those with lingering or severe COVID to those without a positive diagnosis, we expect that our results would be larger in magnitude.

Table 3 explores financial difficulties due to COVID. Column (1) of Panel A shows that those with severe or lingering COVID were 21 percentage points more likely to have financial difficulties than those with no or mild COVID diagnoses. The remaining columns of Table 3 are conditional on answering "yes" to having financial difficulties and thus have smaller sample sizes. Conditional on having financial difficulties, those with lingering or severe COVID were more likely to use savings or credit cards to combat financial difficulties than were those with mild or no COVID.

Table 2: COVID and Labor Market Outcomes

|  | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
|  | Laid off or Furloughed | Lost Earnings | Laid off or Furloughed | Lost Earnings |
| Lingering COVID | 0.132** | 0.276*** |  |  |
|  | (0.057) | (0.056) |  |  |
| Severe COVID | 0.105 | 0.214*** |  |  |
|  | (0.065) | (0.070) |  |  |
| Mild COVID | -0.009 | 0.000 |  |  |
|  | (0.032) | (0.038) |  |  |
| Severe or Lingering COVID |  |  | 0.121*** | 0.250*** |
|  |  |  | (0.043) | (0.044) |
| N | 2390 | 2388 | 2390 | 2388 |
| Mean DV | 0.23 | 0.31 | 0.23 | 0.31 |

*Notes: Data from households with children and non-missing COVID-19 status from the 2019, 2021 PSID. Regressions control for 2019 household characteristics, and outcomes are measured in 2021. COVID measures represent infections throughout the pandemic. * p<.10, ** p<.05, *** p<.01.*

Table 4 looks at outcomes relating to food security. Odd numbered columns further control for the 2019 dependent variable value, as these measures are available in both 2019 and 2021; even numbers do not control for 2019 values. The fact that coefficients are not that different across specifications lends credence to the differences reported in Tables 2 and 3. While those with severe and lingering COVID are more likely to report that they were worried food would run out or that the food they had did not last (Columns [1]–[4]), these differences are not statistically significant. However, those with lingering or severe COVID were 7 to 10 percentage points more likely to report not having balanced meals than those with mild or no COVID; that estimate is statistically different from zero at the 5-percent level.

Table 3: COVID and Financial Security

| Panel A | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Had Financial Difficulties | Cut Back on Spending | Used Savings | Deferred Rent, Mortgage Payments | Put off Paying Bills | Used Credit Card More |
| Severe or Lingering COVID | 0.208*** | 0.011 | 0.276*** | 0.016 | 0.071 | 0.141** |
| | (0.043) | (0.031) | (0.050) | (0.070) | (0.073) | (0.070) |
| Observations | 2388 | 643 | 641 | 642 | 639 | 638 |
| DV Mean | 0.23 | 0.95 | 0.67 | 0.36 | 0.51 | 0.51 |

| Panel B | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|
| | Used Money from Retirement | Financial Help from Family | Filed for UI | Used Food Bank | Used Equity/Line of Credit | Obtained Loan |
| Severe or Lingering COVID | 0.018 | -0.054 | -0.110 | 0.072 | 0.029 | 0.061 |
| | (0.054) | (0.066) | (0.074) | (0.065) | (0.057) | (0.056) |
| Observations | 637 | 636 | 636 | 638 | 635 | 634 |
| DV Mean | 0.19 | 0.36 | 0.43 | 0.35 | 0.14 | 0.14 |

*Notes: Data from households with children and non-missing COVID-19 status from the 2019, 2021 PSID. Regressions (LPMs) control for 2019 household characteristics, and outcomes are measured in 2021. COVID measures represent infections throughout the pandemic. * p<.10, ** p<.05, *** p<.01.*

Table 4: COVID and Food Security

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Worried Food would Run Out | | Food didn't Last | | No Balanced Meals | |
| Severe or Lingering COVID | 0.029 | 0.044 | 0.043 | 0.060 | 0.070** | 0.097** |
| | (0.035) | (0.040) | (0.034) | (0.037) | (0.035) | (0.040) |
| Y_2019 | 0.306*** | | 0.344*** | | 0.344*** | |
| | (0.038) | | (0.042) | | (0.044) | |
| N | 2388 | 2388 | 2383 | 2384 | 2381 | 2382 |
| Mean DV | 0.16 | 0.16 | 0.11 | 0.11 | 0.12 | 0.12 |

*Notes: Data from households with children and non-missing COVID-19 status from the 2019, 2021 PSID. Regressions (LPMs) control for 2019 household characteristics, and outcomes are measured in 2021. Y_2019 is the outcome variable measured in 2019. For example, in Columns (1)–(2) Y_2019 is whether or not the household was worried food would run out in 2019. COVID measures represent infections throughout the pandemic. * p<.10, ** p<.05, *** p<.01.*

For whom is a lingering or severe COVID diagnosis a greater economic penalty? Figures 3–4 plot the differences between the lingering and severe COVID and the mild or no COVID groups by whether or not the respondent is White non-Hispanic or another race/ethnicity. The severe or lingering penalty for COVID is greater for non-White populations, particularly for being laid off or furloughed, losing earnings, and not having food last. The financial cost of lingering or severe COVID is similarly associated with an increase in the likelihood of having financial difficulty and the decrease in the likelihood of having no balanced meals.

Figure 3: Differences by Race/Ethnicity
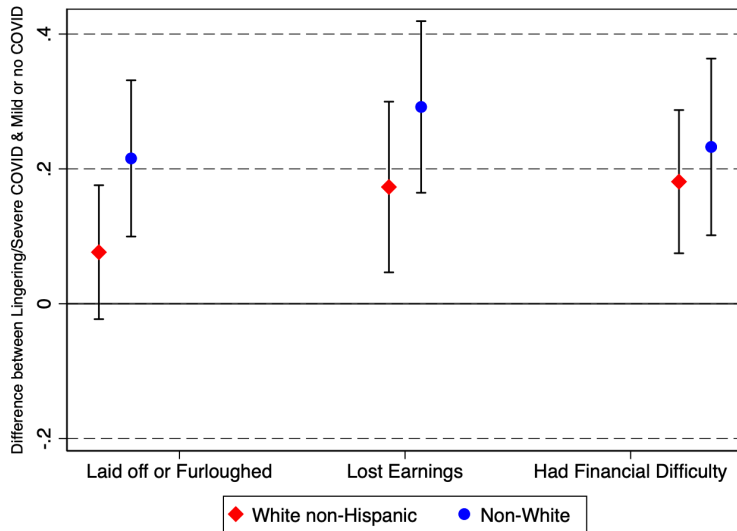


*Notes: Data from households with children and non-missing COVID-19 status from the 2019, 2021 PSID. Regressions (LPMs) control for 2019 household characteristics, and outcomes are measured in 2021. COVID measures represent infections throughout the pandemic. Coefficients reported with 95 percent confidence intervals. Red diamonds represent White non-Hispanic households and blue circles represent non-White households.  \* p<.10, \*\* p<.05, \*\*\* p<.01.*

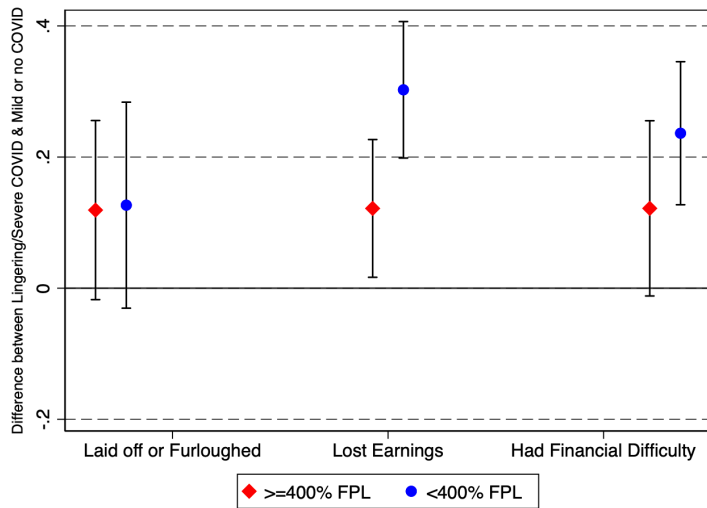Figure 4: Differences in Food Security by Race/Ethnicity
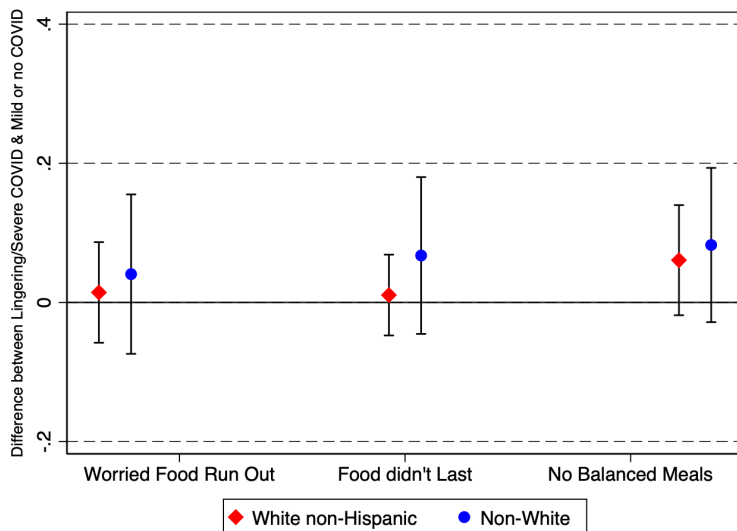


*Notes: Data from households with children and non-missing COVID-19 status from the 2019, 2021 PSID. Regressions (LPMs) control for 2019 household characteristics, and outcomes are measured in 2021. COVID measures represent infections throughout the pandemic. Coefficients reported with 95 percent confidence intervals. Red diamonds represent White non-Hispanic households and blue circles represent non-White households.  \* p<.10, \*\* p<.05, \*\*\* p<.01.*
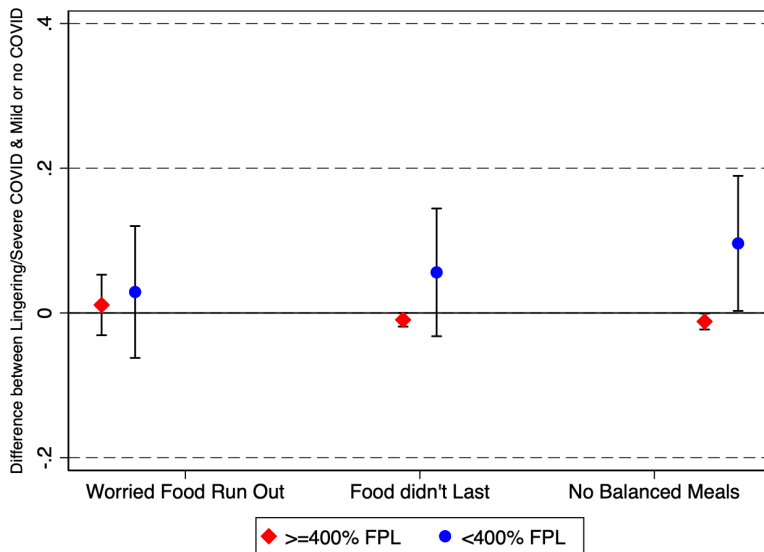
Figure 5: Differences by Poverty



*Notes: Data from households with children and non-missing COVID-19 status from the 2019, 2021 PSID. Regressions (LPMs) control for 2019 household characteristics, and outcomes are measured in 2021. COVID measures represent infections throughout the pandemic. Coefficients reported with 95 percent confidence intervals. Red diamonds represent households earning at least 400 percent of the federal poverty line and blue circles represent households earning less than 400 percent of the federal poverty line.  \* p<.10, \*\* p<.05, \*\*\* p<.01.*

Figure 6: Differences in Food Security by Poverty



*Notes: Data from households with children and non-missing COVID-19 status from the 2019, 2021 PSID. Regressions (LPMs) control for 2019 household characteristics, and outcomes are measured in 2021. COVID measures represent infections throughout the pandemic. Coefficients reported with 95 percent confidence intervals. Red diamonds represent households earning at least 400 percent of the federal poverty line and blue circles represent households earning less than 400 percent of the federal poverty line.  \* p<.10, \*\* p<.05, \*\*\* p<.01.*

Figures 5–-6 replicate this strategy for those above and below 400 percent of the FPL. Those families under 400 percent of the FPL had a much greater gap in the likelihood of losing earnings across those who did and did not have lingering or severe COVID. They also had a greater likelihood of reporting financial difficulty after severe or lingering COVID than those who earned above 400 percent of the FPL. Further, lingering or severe COVID was associated with a sharp decline in food security only for those under 400 percent of FPL. These results suggest that in addition to being the most likely to have severe or lingering COVID, non-White families and those earning lower incomes in 2019 were most likely to have financial repercussions from COVID.

## 4. Discussion

These findings help us to better understand how COVID-19 health shocks (of varying severity) impact the economic security and well-being of families with children. Analyses related to group (1), i.e., families where a parent or caregiver has lingering post-COVID health problems (long COVID), are of particular interest to SSA, as findings could inform predictions of the need for children's benefits when COVID-19 illness leads to a parent's or caregiver's disability.

## 5. Conclusion

One of the primary takeaways of our study is that when households with children contained a household head or spouse who had lingering or severe COVID—a measure more inclusive than long COVID—that household was 52 percent more likely to have someone laid off or furloughed and 81 percent more likely to have lost earnings compared to those households with a head or spouse who experienced mild COVID or no COVID diagnoses. That reduction in economic security translates into reported financial difficulty and less food security. The associations are greatest for those who were making less than 400 percent of the FPL before the start of the pandemic and for non-White households. These results suggest that current policies could potentially be expanded to target those with the most need: households where at least one adult has long COVID and remains out of work. One potential policy lever would be to expedite the SSI and DI processes for these households or to supplement state UI to support households with long COVID for longer time horizons.

Eleven percent of our sample of households with children reported having a household head or spouse/partner with lingering or severe COVID symptoms. This is slightly higher than

estimates from the Census Bureau's Household Pulse Survey, which finds that 8 percent of working-age Americans currently have long COVID.[3] Similar to other work, our study finds that lingering and severe COVID have comparable associations with exiting the labor force and having reduced earnings.

While our work documents the link between lingering or severe COVID and economic outcomes, we are limited by our self-reported measure of COVID test results, severity, and the existence of persistent symptoms. Future work could pair administrative data from physician-diagnosed long COVID and/or the duration of hospital stays related to COVID with administrative data on household finances. This clean pairing may allow for a better measurement of the direct relationship between long COVID and the financial picture of households.

A follow-up research question directly related to policy remains unanswered: how many of the long COVID cases will translate to Social Security disability applications? With long COVID decreasing the likelihood of formal work, will we see an uptick in DI participation? Are there barriers to applying or information constraints such that people experiencing long COVID are unaware of its categorization as a disability? Future research could investigate these and other questions related to long COVID.

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[3] See https://www.brookings.edu/research/new-data-shows-long-covid-is-keeping-as-many-as-4-million-people-out-of-work/.

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