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Descriptive Finding

The COVID-19 pandemic's unequal socio-economic impacts on minority groups in the United States

Weiwei Zhang

Deepthi Kolady

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Contents

1	Background	1020
2	Objectives	1021
3	Methods	1021
3.1	Data	1021
3.2	Measurements	1022
4	Results	1023
5	Conclusions	1029
6.	Contribution	1029
	References	1030

The COVID-19 pandemic's unequal socioeconomic impacts on minority groups in the United States

Weiwei Zhang¹

Depthi Kolady²

Abstract

BACKGROUND

Socioeconomically disadvantaged groups disproportionately reported experiencing adverse circumstances resulting from the COVID-19 pandemic's socioeconomic impacts. Overarching factors associated with differentiated risks in the United States include race and ethnicity.

OBJECTIVE

We aim to examine: (1) the differentiated risk of experiencing adverse circumstances by race and ethnicity in the United States and (2) the trend in adverse outcomes and racial/ethnic differences in the past two years.

METHODS

The study utilized 49 data cycles from the Household Pulse Survey from April 2020 to September 2022. The outcomes are adverse experiences, including loss of employment income, food scarcity, housing insecurity, and unmet needs for mental health services. The racial and ethnic groups are non-Hispanic White, non-Hispanic Black, non-Hispanic Asian, non-Hispanic other minorities, and Hispanic. We compared weighted percentages of the total population and racial and ethnic groups reporting having experienced adverse circumstances during every data collection period.

RESULTS

We found that except for non-Hispanic Asians, racial and ethnic minorities were more likely to report loss of employment income, food scarcity, housing insecurity, and unmet needs for mental health services. Prevalence estimates by race/ethnicity for each cycle illustrated the persistent racial/ethnic disparities from April 2020 to the present.

¹ South Dakota State University, Brookings, South Dakota, USA. Email: Weiwei.Zhang@sdstate.edu.

² South Dakota State University, Brookings, South Dakota, USA.

CONCLUSIONS

The adverse socioeconomic impacts of the COVID-19 pandemic tended to be disproportionately higher for most racial and ethnic minorities compared to non-Hispanic Whites, and this trend continues.

CONTRIBUTION

This paper analyzes real time population survey data to demonstrate the extent of unequal and adverse socioeconomic impacts of the COVID-19 pandemic on minority groups and highlights the persistence of these trends in adverse socioeconomic outcomes.

1. Background

Beyond its direct effect on public health, the COVID-19 pandemic had unequal social and economic consequences for disadvantaged individuals and families. Public health measures such as lockdowns and social distancing, necessary for public safety, posed social and economic challenges and had unprecedented impacts on socioeconomic environments. Amid this political-economic and social context, individuals and families have had differentiated risks of experiencing adverse conditions, including but not limited to the loss of employment, reduced income, food shortage, housing insecurity, and reduced use of social services and health care. Overarching factors determining the pandemic's unequal health and socioeconomic impacts on individuals and families in the United States include race and ethnicity. Investigating the effects of race and ethnicity on COVID-19 outcomes is important to mitigate such unequal adverse impacts in the future (Abrams and Szelfer 2020).

Studies have shown racial/ethnic disparities in health outcomes and experiences during the pandemic. Areas with disproportionately high concentrations of minorities and communities of color have had significant upswings in COVID-19 mortality (Millett et al. 2020). Excess deaths due to COVID-19 have led to an increased gap in life expectancy at birth by racial/ethnic group. The US population had a decline in life expectancy of 2.7 years from 2019 to 2021. Non-Hispanic American Indian and Alaska Native people (AIAN) had the biggest drop (6.6 years), followed by Hispanics (4.2 years) and non-Hispanic Blacks (4.0 years) (Arias et al. 2022). Blacks and Native Americans were nearly twice as likely to be food insecure compared to non-Hispanic Whites (Fitzpatrick et al. 2021). Hispanics reported a relatively high psychosocial stress prevalence related to insufficient food or unstable housing (McKnight-Eily et al. 2021). Non-Hispanic Blacks, compared to other racial/ethnic groups, reported significantly higher levels of food and financial insecurity and a greater likelihood of being fired or unemployed due to the pandemic (Perry, Aronson, and Pescosolido 2021). Using the trend data of the Household

Pulse Survey (HPS), Coley and Baum (2021) reported that the prevalence of unmet need for counseling was highest among those identifying as non-Hispanic other race/ethnicity (16%) from April to November 2020.

2. Objectives

We aim to examine: (1) the differentiated risk of experiencing adverse socioeconomic circumstances by race/ethnicity in the United States and (2) trends in adverse outcomes and racial/ethnic differences in the past two years.

3. Methods

3.1 Data

We obtained data from the HPS, a 20-minute biweekly online survey (US Census Bureau 2020). The survey, developed by the US Census Bureau with assistance from other federal agencies, started on April 23, 2020. The samples were drawn from the Census Bureau's Master Address File (MAF) of approximately 117 million US housing units (Fields et al. 2020). HPS data collection is implemented by phase and cycle, with multiple cycles in one phase. Table 1 presents the phases, cycles, average sample size, and start/end dates for each data collection phase. The survey collected and disseminated data every two weeks in Phases 1–3.6. Phase 3.3 adopted a different approach, with a break of two weeks between cycles. Cycle 49 of Phase 3.6, collected September 14–28, 2022, provides the most recently released data (as of October 2022). Our study used the data of all 49 cycles from April 2020 to September 2022. Each data cycle had more than 50,000 responses. Each data cycle included household and person weights for calculating population-level prevalence estimates. The HPS data allow the real time assessment of social and economic impacts of the COVID-19 pandemic on individuals and families.

Table 1: HPS data collection phases, cycles, start/end dates, and average cycle sample sizes

Data cycle	Start date–end date	Data collection cycles	Average cycle sample size
Phase 1	April 23, 2020–July 21, 2020	Cycles 1–12	90,693
Phase 2	August 19, 2020–October 26, 2020	Cycles 13–17	100,538
Phase 3	October 28, 2020–March 29, 2021	Cycles 18–27	73,233
Phase 3.1	April 14, 2021–July 5, 2021	Cycles 28–33	70,910
Phase 3.2	July 21, 2021–October 11, 2021	Cycles 34–39	63,818
Phase 3.3	December 1, 2021–February 7, 2022	Cycles 40–42	70,434
Phase 3.4	March 2, 2022–May 9, 2022	Cycles 43–45	69,898
Phase 3.5	June 1, 2022–August, 2022	Cycles 46–48	55,977
Phase 3.6	September 14, 2022–September 28, 2022	Cycle 49 (ongoing)	50,937

3.2 Measurements

We extracted the survey data to measure four types of adverse experiences quantitatively: loss of employment income, food scarcity, housing insecurity, and unmet needs for mental health services. Housing insecurity includes two outcomes: having difficulties with rent or mortgage payments and the likelihood of an eviction or foreclosure. We obtained self-identified race/ethnicity information from two questions asking about race and ethnicity separately.

Loss of employment income: We created a dichotomous variable based on a question about employment income loss. In Cycles 1–27, the question concerned income loss of the respondent or anyone in the household since March 13, 2020. Starting in Cycle 28, the question concerned whether anyone in the household had experienced a loss of employment income in the previous four weeks. We expect to see a difference in the estimates between data collection phases.

Food scarcity: The HPS asked whether there had been enough food for the household for the previous seven days (Cycles 1–49). We coded a value of 1 for having experienced food scarcity for those reporting that they often or sometimes had not had enough to eat. Cycles 1–21 included a question about food sufficiency prior to the pandemic. We used this information to construct a pre-pandemic indicator of food scarcity.

Housing insecurity: We created two variables to measure housing insecurity: having difficulties catching up on housing payments and the likelihood of eviction or foreclosure due to payment issues. Cycles 13–49 added questions for constructing these two variables. Both are dichotomous variables. We assigned a value of 1 for not being able to catch up on rent or mortgage payments. For the variable of eviction or foreclosure, we assigned a value 1 if the respondent thought the household would be somewhat or very

likely to leave a home because of eviction or foreclosure. The universal population for the second variable was respondents who reported having rent or mortgage payment issues.

Unmet need for mental health services: In Cycles 13–45, the survey added a question about access to mental health services. We assigned a value of 1 to needing counseling or therapy from a mental health professional at any time in the prior four weeks but not receiving services.

Race and ethnicity: We combined the responses to two race and ethnicity questions and created a variable containing five groups: non-Hispanic White, non-Hispanic Black, non-Hispanic Asian, non-Hispanic other minorities, and Hispanic. Non-Hispanic other minorities included participants who identified as AIAN, another race/ethnicity, or two or more races.

We analyzed the cycle data to examine differences in adverse outcomes across racial/ethnic groups and possible changes over time. We also analyzed the pooled sample to compare group average outcomes for the entire period in which the survey data were available. Both analyses applied person weights for computing prevalence estimates.

4. Results

Table 2 presents prevalence estimates of adverse experiences by race/ethnicity from the pooled sample across all data collection cycles and includes 90% confidence intervals. Due to differences in information availability in data collection cycles, results from the cycle data were organized in two graphs. Figure 1 presents the results of loss of employment income and food scarcity from April 2020 to the present. Figure 2 presents the results of housing insecurity from August 2020 to the present and unmet needs for mental health services from August 2020 to May 2022. Each graph includes the start and end dates for each data collection cycle, a gap between phases, percentages on the y-axis, and lines shaded in distinct colors to illustrate group-specific estimates.

Table 2: Weighted percentages of the population that reported adverse experiences by racial and ethnic group

	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Non-Hispanic Others	Hispanic	Total Population
Loss of employment income	11.9 [11.8,12.0]	22.9 [22.5,23.3]	15.7 [15.3,16.2]	21.6 [21.0,22.3]	26.7 [26.3,27.2]	16.3 [16.1,16.4]
Often/sometimes not enough to eat	7.2 [7.1,7.2]	19.3 [19.0,19.6]	5.9 [5.6,6.2]	16.2 [15.8,16.6]	17.0 [16.7,17.3]	10.4 [10.3,10.5]
Did not catch up on rent or mortgage	7.4 [7.3,7.5]	21.5 [21.1,21.9]	15.1 [14.7,15.6]	14.9 [14.4,15.4]	16.2 [15.9,16.6]	11.2 [11.1,11.3]
Likely eviction/foreclosure (if didn't catch up on rent or mortgage)	30.8 [30.2,31.4]	41.0 [40.0,42.1]	15.4 [14.2,16.6]	40.0 [38.1,42.0]	33.8 [32.6,34.9]	33.2 [32.8,33.7]
Unmet needs of MH services	10.6 [10.5,10.7]	11.6 [11.3,11.9]	6.7 [6.4,6.9]	16.4 [16.0,16.9]	12.0 [11.7,12.3]	10.9 [10.9,11.0]

Figure 1: Differences in loss of employment income and food scarcity by racial and ethnic group, April 2020–September 2022



Figure 2: Differences in housing insecurity and unmet needs for mental health services by racial and ethnic group, August 2020–September 2022



Loss of employment income: Due to differences in question design, we used data pooled from Cycles 28–49 and computed the prevalence of employment income loss by group (Table 2). Overall, employment income loss was the highest for Hispanics (26.7%), followed by non-Hispanic Blacks (22.9%) and non-Hispanic others (21.6%). Non-Hispanic Asians (15.7%) were close to the population average (16.3%). The drop in the trend data after April 2021 reflected the change in the survey question (the upper panel in Figure 1). Group differences were relatively consistent across phases, with Hispanic people reporting income loss at the highest level, followed by non-Hispanic Blacks and other minorities. The percentage of Hispanics reporting employment income loss in the last four weeks peaked in April 2021 (Cycle 28; 32.9%), followed by a slight decline, and went up again, to around 30%, in January and February 2022 (Cycles 41 and 42). Since March 2022, the prevalence estimates have continued to decline; the September 2022 estimate was the lowest (19.8%).

Food scarcity: Results from the pooled data showed a weighted population average of 10.4% reporting often or sometimes not having enough food in the prior seven days (Table 2). Except for non-Hispanic Asians, the prevalence of food scarcity for racial/ethnic minorities was more than two times higher (16.2–19.3%) than the prevalence for non-Hispanic Whites (7.2%). Nearly one out of five non-Hispanic Blacks reported food scarcity (19.3%). Trend patterns on the lower panel in Figure 1 show that racial/ethnic disparities in food scarcity followed a slightly increased divide between two clusters of lines, with non-Hispanic Whites and Asians below the population average and other minority groups above the population average. The prevalence estimates for non-Hispanic Black people were the highest in June–July 2022 (Cycle 47; 25.9%), an increase from peaks in May and December 2020.

Compared to the 2018 food insecurity estimates (Coleman-Jensen et al. 2019), the estimates during the pandemic were lower for the total population, non-Hispanic Whites, and Blacks. The estimates for Hispanics were higher (17.0 versus 16.2%). Our results for the pandemic period align with 2021 estimates (Coleman-Jensen et al. 2022). Using HPS Cycle 1–21 data, we also constructed an indicator to assess food sufficiency before March 13, 2020 (estimates not shown). Although it may not be a perfect indicator for pre-pandemic prevalence, it allows comparisons for every racial/ethnic group in this study. The prevalence of food scarcity had an increase of 1.5% for the total population. Non-Hispanic others had the largest increase, 3.3%, followed by 1.6% for Hispanics and non-Hispanic Whites, 0.6% for non-Hispanic Blacks, and 0.4% for non-Hispanic Asians. It is clear from the above analysis that racial/ethnic disparities in food scarcity remained during the pandemic, with the rates more elevated for non-Hispanic AIANs, multiple and other races, and Hispanics to a lesser degree.

Housing insecurity: The prevalence estimates for missing payments for all minority groups were more than two times higher than the estimate for non-Hispanic Whites

(7.4%), with the highest among non-Hispanic Blacks (21.5%), followed by Hispanics (16.2%), non-Hispanic Asians (15.1%), and non-Hispanic others (14.9%) (Table 2). Temporal patterns shown in the top panel in Figure 2 depict an elevated trend line for non-Hispanic Blacks throughout the entire period. Racial/ethnic differences in self-assessed likelihood of an eviction or foreclosure do not follow the same pattern. Except non-Hispanic Asians, among groups that reported missing payments, more than 30% thought they would likely leave home because of an eviction or foreclosure in the next two months. In June–July 2022 (Cycle 47), more than half of the non-Hispanic Black people who were behind on rent or mortgage payments expressed the likelihood of eviction or foreclosure (54.7%). Although all racial/ethnic minority groups had higher estimates of not catching up on housing payments than the population average, non-Hispanic Asians were much less likely to forecast a follow-up eviction or foreclosure than other minority groups, as were Whites.

Prior to the pandemic, a couple of surveys used nationally representative samples and collected data on housing insecurity. A study that compared estimates from the HPS April–December 2020 data to pre-pandemic estimates reported a widening gap in housing insecurity by race/ethnicity, particularly caused by increased rates among Black and Hispanic renters in 2020 (Cai, Fremstad, and Kalkat 2021). The authors also noted that due to differences in the data sources, the comparison might not reflect the exact magnitude of the trend.

Unmet need for mental health services: In the past two years, 10.9% of the total population reported not receiving mental health services when they had needed counseling or therapy from a mental health professional in the previous four weeks (Table 2). Non-Hispanic others led with the highest percentage, 16.4%. The other groups were close to the population average, with the lowest percentage among non-Hispanic Asians (6.7%). The trend in Figure 1 shows that prevalence estimates for non-Hispanic others were persistently above estimates for other groups, with a peak in December 2021–January 2022 (Cycle 41; 19.8%).

Compared to 2018 estimates derived from the National Survey on Drug Use and Health (NSDUH) (estimates not shown), there was an increase of 5.1 percentage points for the total population, while the increases for Hispanics and non-Hispanic Blacks were 6.8 and 7.4 percentage points, respectively. The NSDUH reports estimates for AIANs, multiple races, and other races separately. Using the highest 2018 estimate for multiple races, we estimated an increase of 8.5 percentage points for non-Hispanic others. It is worth noting that due to differences in survey design, the comparison may not reflect the exact change in racial/ethnic disparities.

5. Conclusions

Relying on the near real time HPS data, we computed prevalence estimates of employment income loss, food scarcity, housing insecurity, and unmet needs for mental health services for the total population and by race/ethnicity for 49 time periods as well as the entire phase of the past two years. Results show that Hispanics and non-Hispanic minorities, except Asians, had persistently higher rates of experiencing these adverse socioeconomic outcomes induced by the COVID-19 pandemic. Cycle estimates demonstrated that Hispanics had a disproportionately high risk of employment income loss; non-Hispanic Blacks reported elevated rates of not catching up on rent or mortgage payments and a likely eviction or foreclosure due to payment issues; non-Hispanic AIANs, others races, and multiple races had an exceptionally high level of unmet needs for mental health services. These cycle estimates help identify temporal changes in a near real time manner and provide a more complete picture of unequal impacts of the COVID-19 pandemic by race/ethnicity. A limitation of the study is that the HPS Public Use Files data do not allow estimation of prevalence for non-Hispanic AIANs, other races, and multiracial groups separately. We attempted to utilize responses to a survey question about whether the respondent had Indian Health Service health insurance coverage to identify an American Indian subset population. The size of the sample was too small to generate reliable estimates. Insufficient sample size is possibly due to the fact that the HPS was done entirely online, so response rates among some groups, in particular American Indians, might have been suppressed.

6. Contribution

We show that real time population survey data can be used to assess the adverse socioeconomic and mental health impacts of the COVID-19 pandemic on racial/ethnic minorities in the United States and to analyze rapid and frequent temporal changes in these disparities. Our analysis also highlights the differences in adverse outcomes between racial/ethnic groups and the persistence of these adverse trends from April 2020 to September 2022.

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