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RETIREMENT  
RESEARCH  
*at* BOSTON COLLEGE



Center for  
Financial Security  
UNIVERSITY OF WISCONSIN-MADISON



Retirement and Disability Research Consortium  
24<sup>th</sup> Annual Meeting  
August 4<sup>th</sup> & 5<sup>th</sup>, 2022

Virtual Event

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The four RDRC Centers gratefully acknowledge financial support from the U.S. Social Security Administration (SSA) for this meeting. The findings and conclusions are solely those of the authors and do not represent the views of SSA, any agency of the federal government, or the four RDRC Centers.

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**24th Annual Meeting**  
**Retirement and Disability Research Consortium**

**August 4<sup>th</sup> & August 5<sup>th</sup>, 2022**  
**12:00pm to 4:00 pm ET**

**Day 1: Thursday, August 4, 2022**

12:00 – 12:15..... Opening Remarks – Kilolo Kijakazi, Ph.D., M.S.W.  
Acting Commissioner of Social Security Administration

12:15 – 1:15..... **Panel 1: Understanding Disparities in Retirement and Disability**  
Moderator: Angelino Viceisza, Spelman College

UM22-16 “Work and Retirement for Older Black and Hispanic Adults”

*Emma Aguila, University of Southern California*  
*Zeewan Lee, National University of Singapore*

NB22-09 “Structural Barriers to Receipt of Income Support and Health Insurance among Adults with Disabilities by Race and Ethnicity”

*David Cutler, Harvard University & NBER*  
*Ellen Meara, Harvard University & NBER*  
*Rand Obeidat, Bowie State University*

WI22-04 “All in the Family: Mothers of Children with Disabilities and Retirement”

*Molly A Costanzo, Institute for Research on Poverty (IRP) & University of Wisconsin-Madison*  
*Lisa Klein Vogel, IRP & University of Wisconsin-Madison*  
*Victoria Knoke, University of Wisconsin-Madison*  
*Hanna Han, University of Wisconsin-Madison*

1:15 – 1:30..... Break

1:30 – 2:30..... **Panel 2: Improving Social Security Knowledge**  
Moderator: Laith Alattar, Social Security Administration

UM22-12 “Disparities in Social Security Knowledge and the Role of Social Capital”

*Katherine Carman, RAND*  
*Jhacova Williams, RAND*

NB22-15 “The Role of Stock-Flow Reasoning in Understanding the Social Security Trust Fund”

*Megan E. Weber, University of California, Los Angeles*  
*Hal E. Hershfield, University of California, Los Angeles*  
**Stephen A. Spiller**, *University of California, Los Angeles*  
*Suzanne B. Shu, Cornell University & NBER*

WI22-10 “Enhancing Trust in the Social Security Administration and E-Government Among People Targeted by Fraud”

**Stephen Wendel**, *Action Design Network*  
**Marti DeLiema**, *University of Minnesota*  
*Cliff A. Robb, University of Wisconsin-Madison*

2:30 – 2:45..... Break

2:45 – 3:45..... **Panel 3: Leveraging New Data to Measure and Address Racial Disparities**

Moderator: James Choi, Yale University

BC22-11 “Racial Disparities in COVID-19 Experiences Among Older Adults with Disabling Conditions”

*Amal Harrati, Mathematica*  
**Marisa Shenk**, *Mathematica*  
*Bernadette Hicks, Mathematica*  
*Ana Quiñones, Oregon Health & Science University*

NB22-06 “Income, Race, and Life Expectancy: A New Database to Measure Changes in Life Expectancy Over Time”

*Raj Chetty, Harvard University & NBER*  
*Nathaniel Hendren, Harvard University & NBER*  
*John Friedman, Brown University & NBER*  
**Michael Stepner**, *University of Toronto*

WI22-06 “The Power of Linked Administrative Data: Understanding Racial and Ethnic Differences in SSA and Means-Tested Benefit Receipt and Their Anti-Poverty Effects for Children in Multigenerational Families”

*Yonah Drazen, Institute for Research on Poverty (IRP) & University of Wisconsin-Madison*  
*Lawrence M. Berger, IRP & University of Wisconsin-Madison*  
**J. Michael Collins**, *IRP & University of Wisconsin-Madison*  
*Molly Costanzo, IRP & University of Wisconsin-Madison*  
*Hilary Shager, IRP & University of Wisconsin-Madison*

**Day 2: Friday August 5, 2022**

12:00 – 12:35..... Keynote – Marcella Alsan, Harvard University

12:35 – 1:35..... **Panel 4: Factors Affecting Disability and Disability Benefit Receipt**

Moderator: Katherine Bent, Social Security Administration

UM22-04 “The Role of Physical, Cognitive, and Interpersonal Occupational Requirements and Working Conditions on Disability and Retirement”

*Italo Lopez-Garcia, The University of Southern California*

*Kathleen J. Mullen RAND*

*Jeffrey Wenger, RAND*

NB19-29 “Legal Representation in Disability Claims”

*Hilary Hoynes, University of California, Berkeley & NBER*

*Nicole Maestas, Harvard University & NBER*

*Alexander Strand, Social Security Administration*

WI22-02 “Exploring Worker and Firm Characteristics that Drive Use of Accommodation for Workers with Disabilities”

*Corina Mommaerts, University of Wisconsin–Madison*

*Naoki Aizawa, University of Wisconsin–Madison*

*Stephanie Rennane, RAND*

1:35 – 1:50..... Break

1:50 – 2:50..... **Panel 5: Factors Driving Trends in Health and Disability**

Moderator: Courtney Coile, Wellesley College

BC22-18 “How Has the Evolving Nature of Work Affected Health and Disability?”

*Stipica Mudrazija, Urban Institute*

*Barbara Butrica, Urban Institute*

BC22-17 “How Will COVID Affect the Mortality of Older Adults?”

*Gal Wettstein, Boston College*

*Anqi Chen, Boston College*

*Alicia Munnell, Boston College*

NB22-05 “How Do Increases in Earned and Unearned Income Affect Health? Evidence from Native American Tribal Casinos”

*Randall Akee, University of California, Los Angeles & NBER*

*Emilia Simeonova, Johns Hopkins University & NBER*

*Sonya Porter, United States Census Bureau*

2:50 – 3:50..... **Panel 6: The Impacts of COVID-19**

Moderator: Gopi Shah Goda, Stanford University

BC22-02 “How Does COVID-Induced Early Retirement Compare to the Great Recession?”

*Anqi Chen, Boston College*

*Alicia Munnell, Boston College*

*Siyun Liu, Boston College*

UM22-05 “How Will COVID-19 Excess Mortality Affect Social Security Benefit Payouts?”

*Leora Friedberg, University of Virginia*

*Anthony Webb, New School for Social Research*

*Irena Dushi, Social Security Administration*

WI22-13 “Household Composition, Resource Use and the Resilience of Older Adults Aging in Community During COVID-19”

*Samara Scheckler, Harvard University*

*Christopher Herbert, Harvard University*

*Jennifer Molinsky, Harvard University*

*Bonnie Albright, University of Massachusetts, Boston*

3:50 – 4:00..... Closing Remarks – Nicole Maestas, Harvard Medical School

# **Panel 1: Understanding Disparities in Retirement and Disability**

*Moderator: Angelino Viceisza, Spelman College*

UM22-16 “Work and Retirement for Older Black and Hispanic Adults”

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## **Work and Retirement of Older Black and Hispanic Adults**

Emma Aguila, University of Southern California

Zeewan Lee, National University of Singapore

24<sup>th</sup> Annual Meeting of the Retirement and Disability Research Consortium

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The research reported herein was pursuant to a grant from the U.S. Social Security Administration (SSA), funded as part of the Retirement and Disability Research Consortium. The findings and conclusions expressed are solely those of the authors and do not represent the views of SSA, any agency of the federal government, USC and NUS, or the University of Michigan Retirement and Disability Research Center.

Growing U.S. income inequality and the increasing aging of Black and Hispanic populations point to greater risks of financial insecurity for older populations in coming years. Blacks and Hispanics combined will nearly double as a proportion of the U.S. population 65 and older by 2050 (United States Census Bureau, 2018). Given their higher poverty rates, this growth may pose increasing challenges for income security among older adults (Flores and Radford, 2017). Increasing income inequality has had particularly adverse effects on older Blacks and Hispanics. From 1971 to 2019, the proportion of middle-income households decreased while those of lower-income and high-income households increased. Part of this was due to greater increases in wealth and income for high-income households (Horowitz et al., 2020). Large proportions of Blacks and Hispanics have also worked in low-paying jobs with few benefits, often because of their lower levels of education (Tali et al., 2018). Among U.S. households headed by persons 30 to 59 years of age, the proportion “at risk” for old-age financial insolvency increased from 44% in 2007 to 50% in 2016, with Hispanics most at risk (Munnell et al., 2018). Some of this risk may be attributable to the low participation of Hispanics in employer retirement plans.

Research on retirement determinants for Blacks and Hispanics is limited. We analyze retirement determinants for Blacks and Hispanics. Previous studies found social security systems, health insurance, and private employer pensions to be institutional determinants of retirement (Blau and Gilleskie, 2006; Coile and Gruber, 2007; French and Jones, 2011; Gustman and Steinmeier, 2005). Socioeconomic characteristics and health influence retirement decisions as well (French, 2005; Shultz and Wang, 2007). We explore which determinants of retirement vary by race and Hispanic origin, and which are most relevant for older Blacks and Hispanics. This research fill gaps in research on retirement patterns and determinants for older Blacks and Hispanics of lower income and education. The rapid aging of the population, particularly among Hispanics and Blacks, and increasing poverty in old age makes this topic relevant and timely.

We use data from the Health and Retirement Study (HRS), which oversamples Black and Hispanic respondents, from 1992 to 2018. We link this data to the Working Trajectories file and restricted SSA individual-level files to determine Social Security wealth by race and Hispanic origin. To account for significant differences in survival probabilities by demographic characteristics, we apply different survival probabilities by gender and race—generating distinct probabilities for male- Hispanic respondents, female- Hispanic respondents, male- non-Hispanic Black respondents, female- non-Hispanic Black respondents, male- non-Hispanic Whites, and

female- non-Hispanic Whites. We account for respondents' wage gaps in the employment histories using the HRS Working Trajectories file. Using our Social Security wealth estimations, we computed peak-value measures that are a simplified metric of the retirement incentives imposed by the social security wealth accumulation (Coile and Gruber, 2000). Using sociodemographic, health, and economic covariates found relevant in the literature as drivers of retirement, we construct a conditional probit model that identifies the probability that a given individual will retire from the workforce over time.

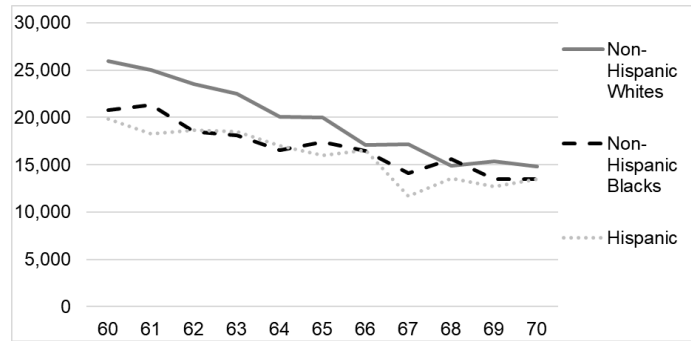


Figure 1. Earnings (USD) for the 50th percentile  
Source: author's calculations.

We find median earnings are higher for non-Hispanic White than for non-Hispanic Black and Hispanic (see Figure 1). Earnings history is one of the primary determinants of Social Security benefits (U.S. Social Security Administration, 2019).

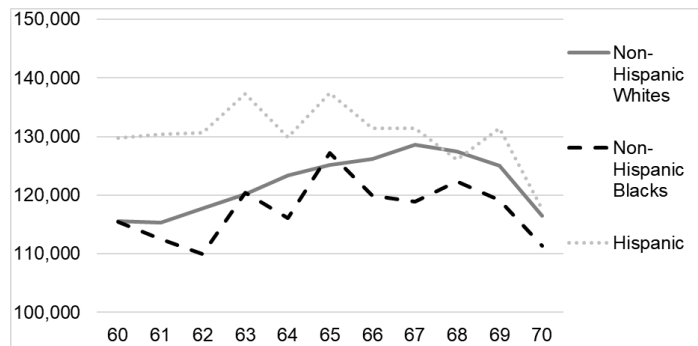


Figure 2. Social Security Wealth (USD) for the 50<sup>th</sup> percentile  
Source: author's calculations.

In Figure 2, we observe that social security wealth is similar among non-Hispanic White, non-Hispanic Black, and Hispanics consistent with previous studies that have found that Social Security has a redistributive effect, because its benefits are provided more equally than pre-retirement income (e.g. Crystal et al., 2017). Also, in our estimates of Social Security wealth, we consider different survival probabilities by gender and race/ethnic origin group and Hispanics have higher survival probabilities. The fact that Hispanics have on average higher survival probabilities than non-Hispanic Whites seems to contribute to narrowing the gap in the social security wealth across the race/ethnic origin groups.

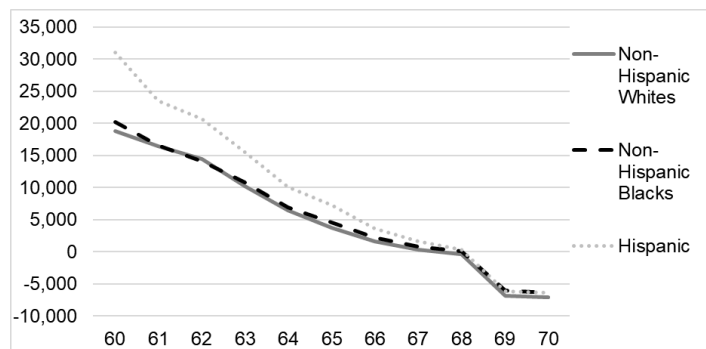


Figure 3. Peak Value (USD) for the 50<sup>th</sup> percentile  
Source: author’s calculations.

Respondents in all three racial groups saw their peak value incentive peaking at ages 60–61, decreasing each year thereafter, and turning negative at age 69 (see Figure 3).

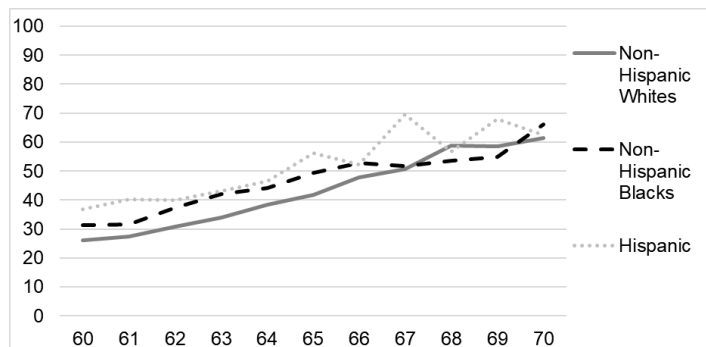


Figure 4. Replacement Rates for the 50<sup>th</sup> percentile  
Source: author’s calculations.

In overall, replacement rates are higher for non-Hispanic Black and Hispanics than for non-Hispanic Whites because of the lower income and similar social security wealth to non-Hispanic Whites (see Figure 4).

We find that Hispanics, Blacks, and non-Hispanic Whites respond similarly to social security, private pension incentives, and other institutional (e.g., health insurance) drivers of retirement. The positive coefficient for social security wealth and negative coefficient for the peak value incentive measure are consistent with previous literature (Gruber and Wise, 2004). Higher social security wealth implies greater financial security, which can induce retirement. A higher peak value incentive measure suggests that social security wealth that may be claimed later is greater than that which may be claimed today and is likely to induce workers to delay retirement (Coile and Gruber, 2007; Lusardi and Mitchell, 2007).

Non-Hispanic Blacks are not responsive to some sociodemographic (male, couple, and number of household members) but they are responsive to physical and mental health problems as drivers of retirement. Hispanics similarly to non-Hispanic Black are less responsive to sociodemographic (male, education, and couple) drivers of retirement than are non-Hispanic Whites and Blacks. Our findings for non-Hispanic Whites are consistent with previous literature for the U.S. and other European countries (Gruber and Wise, 1999, 2004).

Previous studies have documented that non-Hispanic Black and Hispanics rely more than non-Hispanic White on social security benefits to sustain their post-retirement years (Hendley and Bilimoria, 1999; U.S. Social Security Administration, 2010). Naturally, the social security benefits that comprise a large proportion of the retirement income for non-Hispanic Black and Hispanic has a far greater effect on retirement decisions than other sociodemographic and health influences. Given the impact of social security wealth in our analyses, we expect future changes in the U.S. social security system will strongly affect labor force participation and retirement decisions of non-Hispanic Black and Hispanic.

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**Structural Barriers to Receipt of Assistance among Adults with Disabilities:**

**Variation by Race and Ethnicity**

David M. Cutler, Harvard University and NBER

Marema Gaye, Harvard University

Ellen Meara, Harvard University and NBER

Rand Obeidat, Bowie State University

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After peaking in 2010, Social Security Disability Insurance (SSDI) applications have fallen steadily each year, to levels last seen in 2004. In 2019, annual awards reached their lowest level in two decades. However, a full accounting of caseload changes, their causes, and which demographic groups are most affected is not yet available. The contraction in SSDI caseloads was expected due to the transition of Baby Boom generation disability beneficiaries into SSA's Old Age pension benefits.

However, a number of other program changes implemented in recent years may have exerted additional downward pressure on caseloads. A study of 118 SSA field office closings that occurred between 2000 and 2014 revealed that applications fell by 10% and disability insurance receipt fell by 16% in areas affected by an office closing (Deshpande and Li). Applicants with lower levels of education, income, and English language proficiency were most affected. Such findings imply further disruptions to the SSDI application and determination process may be underway due to the complete shutdown of field offices starting March 2020 due to the COVID-19 pandemic.

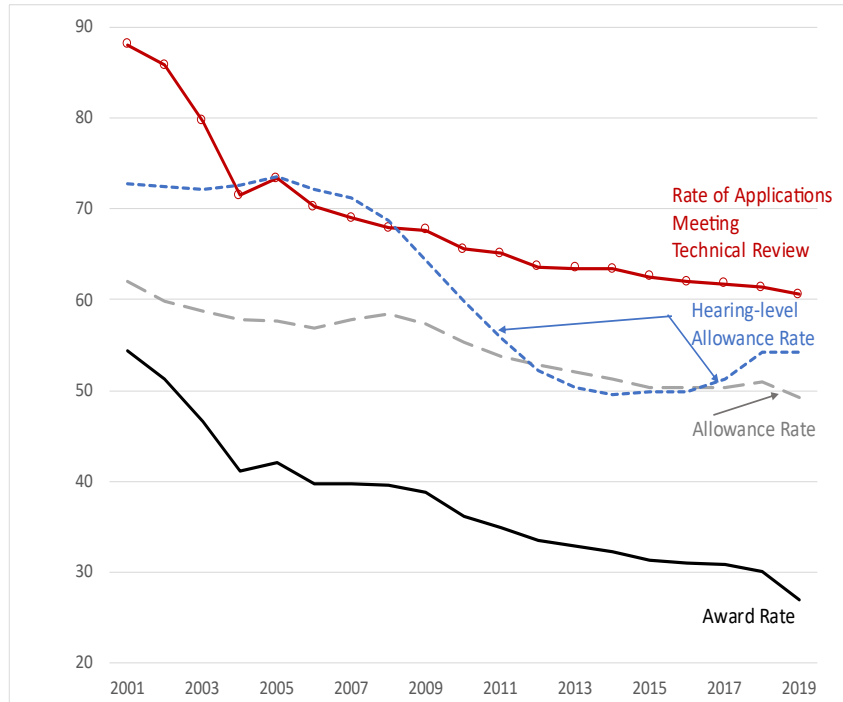
Another change in implementation began in 2010 when the SSA Appeals Council began an effort to increase policy compliance and achieve more consistent decisions among administrative law judges. This effort coincided with a marked drop in allowances at the hearing level (Maestas 2019; Ray and Lubbers 2014). As a share of applications, award rates have dropped steadily in recent years. Less has been written regarding other aspects of the disability application and review process that may contribute to rate changes.

As SSDI caseloads decline, little is known about racial and ethnic differences in SSDI applications and enrollment. As SSDI applications and enrollment have contracted in recent years, such changes may affect workers differently by race and ethnicity. There are stark

differences in the health and labor market experience of workers along a number of dimensions, including race and ethnicity. For example, Black workers earn less and have more physically demanding jobs compared with white workers. Consistent with these differences, SSDI enrollment is higher for Black workers. The medical system also treats patients differently by race. Algorithms to identify patients for extra care have been shown to be biased against Black patients (Obermeyer and Mullainathan 2019). Black patients with pain are less likely to receive opioid prescriptions than white patients treated within a health system, even for conditions like cancer (Morden et al. 2022). Such differences could result in different rates of application for SSDI and enrollment by race or ethnicity. But evidence to date on declining SSDI application and award rates lacks information on race or ethnicity. This is largely due to the absence of such information in SSDI administrative records. Understanding how SSDI program incidence is changing for racial or ethnic minorities, and the health and economic impact of such changes is crucial to questions regarding disability trends and policy. This study uses data from SSA and household surveys to answer two questions. How have different steps in the SSA application review process changed over time and across areas? How have rates of application and disability insurance receipt changed across racial and ethnic groups?

Figure 1 gives a sense of trends in different parts of the disability review process. In order to receive a medical decision, applications must first undergo a technical review. If workers do not meet non-medical criteria regarding earnings limits, meeting the threshold for quarters of work, or related reasons, their claim may receive a technical denial. The rate of applications passing this technical review has fallen steadily since the early 2000s. Applications meeting initial technical review will then receive an initial medical decision, or, for unfavorable

Figure 1. Technical Denials, Allowance, and Award Rates for SSDI



Includes SSDI and SSDI+SSI applications. Rate of applications meeting

calculation based on technical denials and applications in that year.

changes have contributed to a decline in award rates from over 50% in 2000 to about 30% by the year 2017.

To understand how the program changes like office closings, technical denials, and reduced allowance rates affect different groups, we turn to the National Health Interview Survey (NHIS), a household survey of the civilian, community-dwelling population. Each year, the NHIS surveys individuals regarding receipt of health and disability benefits, demographics, and self reported health and activity limitation. We limit our sample to adults aged 18 to 64 and compute rates of application and SSDI receipt after adjusting for age and sex (5-year age groups interacted with female sex), education (less than high school, some college, college degree or

decisions, a reconsideration.

Finally, applications rejected

after reconsideration can be

appealed and considered by

an administrative law judge

(at the hearing level or

above). Allowance rates

reflect the rate for all medical

decisions and decisions at all

of these levels. These total

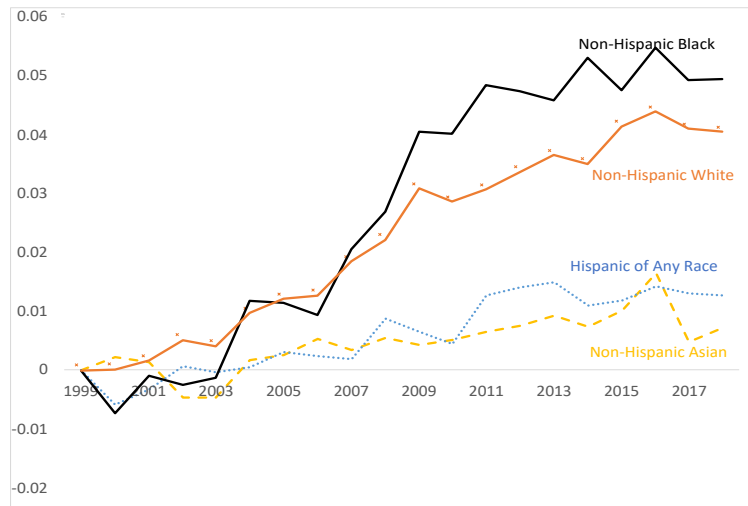
allowance rates have fallen

from over 60 percent to about

50 percent since the year

2000. Taken together, these

Figure 2. Adjusted Applications for SSDI per Adult Aged 18-64



Source: Authors' calculations using data on NHIS respondents 18 interacted with sex, foreign born, education (less than high school, race/ethnicity.

by 2014, SSDI application rates had risen 5 percentage points for Black adults 18 to 64 and 4 percentage points for white adults.

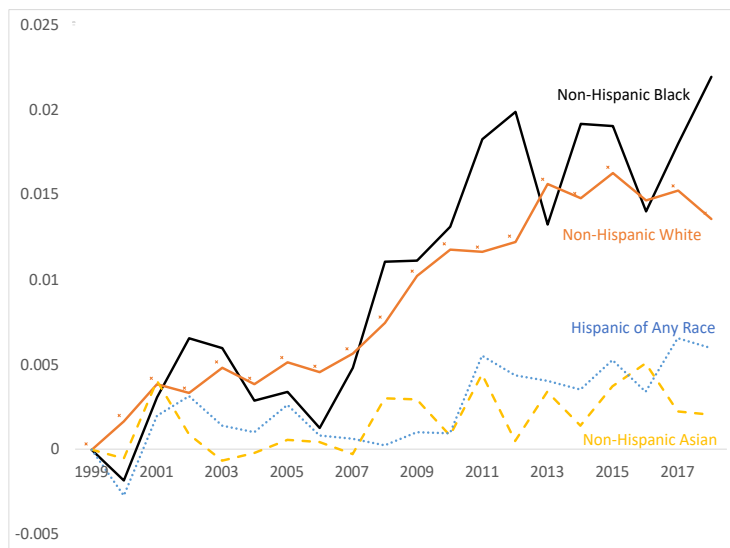
For Asian and Hispanic adults, the rise in application rates was closer to 1 percentage point. The population rates of SSDI receipt grew much more slowly. SSDI receipt was up by nearly 2 percentage points for non-Hispanic Black adults, 1.5 percentage points for non-Hispanic White adults, and just half a percent or less for

more), and whether the respondent

was born in the U.S. We compute these separately for four self-identified race and ethnicity groups (non-Hispanic Asian, non-Hispanic Black, non-Hispanic white, and Hispanic ethnicity). Figure 2

demonstrates the marked increase in applications, especially for non-Hispanic Black and non-Hispanic white workers. Compared to 1999,

Figure 3. Adjusted SSDI Receipt per Adult Aged 18-64



Source: Authors' calculations using data on NHIS respondents separately by race/ethnicity.

Hispanic or Latino adults and non-Hispanic Asian adults. These results are interesting since the percent of adults reporting they were unable to work (adjusting for the demographics described) was fairly steady since 2000 with the exception of Black non-Hispanic adults, who reported a rise in work limitations preventing work after 2014. Thus, application rates, and in turn receipt of SSDI, does not always mirror the needs of the adult population. This is borne out in a final calculation based on survey respondents in the public use Medicare Current Beneficiary Survey 2013 to 2020. Virtually all adults 18 to 64 in this survey receive Medicare due to SSDI eligibility. Comparing the number enrolled in Medicare (which occurs 24 month after SSDI eligibility), to population estimates, the percent of Hispanic adults enrolled in Medicare due to SSDI has declined by nearly 33% between 2013 to 2020, while Medicare enrollment due to SSDI is down about 16% over this period for non-Hispanic Black adults and steady for non-Hispanic white adults.

To summarize, nearly every step in the process from application to SSDI receipt appears to have become more stringent. Applications are down where offices have closed. Technical denials mean fewer applications reach a medical decision. And medical decisions result in lower allowance rates. Our analyses of geographic differences suggest that geographic variation in allowance rates is declining over time. For example, the standard deviation in favorable determinations for initial medical decisions fell from about .08 to .05 since the year 2000. States with historically higher favorable considerations (New York, New Jersey, and Texas, for example) experienced especially large declines in favorable determinations in recent years. In the case of New York state, such declines come on top of an unusually large number of office closures. Understanding the full effect of these program changes across groups, including historically marginalized groups according to race and ethnicity, remains an important gap to fill.

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## **All in the Family: Parents of Children with Disabilities and Retirement**

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The research reported herein was pursuant to a grant from the U.S. Social Security Administration (SSA), funded as part of the Retirement and Disability Research Consortium. The findings and conclusions expressed are solely those of the author(s) and do not represent the views of SSA, any agency of the federal government, or the University of Wisconsin-Madison. The authors wish to thank Kunaal Desai and Nat Shippee for research assistance, Dane County community organizations for their assistance connecting with families, and the mothers who participated for sharing their stories and time.

Parents of children with disabilities face unique constraints and tradeoffs in retirement decisions. Mothers of children with disabilities—the focus of this study—are particularly likely to face challenges in preparing for retirement as they disproportionately bear the responsibility of caregiving for their child (Costanzo and Magnuson 2019; DeRigne and Porterfield 2015). While other mothers may begin saving towards retirement during their prime labor market years, mothers of children with disabilities are more constrained in their ability to work and save due to steeper caregiving responsibilities and increased expenses (Stabile and Allin 2012). Compounding these challenges, a child’s disability may require both financial support and caregiving well into the child’s adult years (Glidden et al. 2021). Additionally, contextual factors such as family structure, co-residence, and the nature and intensity of caregiving are likely to impact retirement constraints (Rupp and Ressler 2009; Grossman and Webb 2016).

Benefits from the Social Security Administration (SSA), including retirement and childhood disability benefits, have the potential to alleviate these concerns and provide economic stability for these families. For mothers of children with disabilities, especially, SSA retirement benefits may comprise a large portion of their planned retirement income due to constraints on other avenues of savings. Furthermore, eligibility for some disability benefits for their children may be influenced by parental claiming of benefits, which may influence mothers’ retirement decisions and timing.

Anticipating that the context of retirement for mothers of children with disabilities is unique from that of other mothers, we aim to understand: (1) Are there differences in retirement savings and timing for mothers of children with disabilities compared to other mothers?; and (2) How do mothers of children with disabilities think about retirement options, and what is the role of SSA benefits in their retirement planning?

### **Study Design**

We use an explanatory, sequential mixed-methods design, allowing us to leverage multiple data sources to explore this understudied area with limited available data (Creswell and Plano Clark 2018). We use nationally-representative data from the National Longitudinal Survey of Youth 1979 (NLSY79) and the related Child and Young Adult (CYA) sample to understand patterns, trends, and associations between a child’s disability status and various retirement outcomes of the mother. Our quantitative sample is comprised of an initial 11,545 mother/child dyads (based on a sample of 4,941 mothers), including 8% of dyads in which the child reports a



health limiting condition for at least two consecutive waves, and 7% where the mother reports significant caregiving responsibilities. We use inverse probability of treatment weighting (IPTW) to account for initial differences in families with typically-developing children and children with disabilities. We then build on our quantitative analysis using data gathered from semi-structured interviews with mothers of children with disabilities. We interviewed 12 mothers, all of whom were 45 or older and provided care for a child with a disability. Interviews focused on gathering a deeper, more nuanced understanding of quantitative findings and answering questions that could not be addressed through the survey data.

## **Results**

*Are there differences in retirement savings and timing for mothers of children with disabilities compared with other mothers?*

Estimates from our NLSY sample indicate different patterns of employment and retirement timing for mothers with significant caregiving responsibilities, and fewer differences for mothers of children with disabilities generally. Higher proportions of mothers with significant caregiving responsibilities reported working part-time at any point in their child's life compared to other mothers (31% compared to 26%). A smaller proportion of these mothers reported working when their child was 6 (55% vs 63%), with a larger gap when the child was 18 (55% vs 71%). We find no significant differences in retirement savings, nor with most other measures of retirement timing, with one exception. Using a Cox proportional hazard model, we find that mothers with significant caregiving responsibilities are at a lower risk of having retired through the end of 2018, indicating that, in our data, more mothers of typically-developing children reported having retired than mothers with significant caregiving responsibilities.

Our qualitative interviews provided some additional nuance. Mothers shared a broad array of ways caregiving affected their earning potential and retirement plans. Some mothers told us they needed to work longer than they planned prior to becoming a parent of a child with a disability due to the amount of savings they anticipated needing for their child's care in addition to their own retirement. Other mothers noted that they never planned to retire fully. Most of the mothers we spoke with described prioritizing workplace flexibility over pay and cutting hours or leaving the paid labor force to accommodate caregiving obligations, and many took these steps out of necessity rather than as a choice, as evidenced by the following quote:

... It was worth taking a pay cut to be in a place where, you know, I could go in on a

Saturday instead of being a nine-to-fiver Monday through Friday.... And when you have that, you can meet your obligations, whether it's doctor's appointments or, you know, whatever else is going on or an early release day (at school) or whatever.

Though quantitative analyses suggested little difference in the timing of retirement, qualitative data reveal that even among our sample of relatively-advantaged interviewees, caregiving, career trajectories, and the expected financial needs of children affected retirement plans.

*How do parents of children with disabilities think about retirement options, and what is the role of SSA benefits in their retirement planning?*

In our interviews, mothers had varying definitions of what it would mean to “retire”, but, most concurred that the end of paid employment did not signal the end of “work.” A few mothers working in paid positions noted that they did not plan to stop working entirely. This echoed a finding from our NLSY sample, which suggested that, when asked about a definition of retirement, mothers with significant caregiving responsibilities selected a reduction in hours in lower numbers, perhaps reflecting the greater propensity for part-time work overall, and were more likely to indicate that they must continue to work due to economic necessity.

Most mothers talked about how their previous view of retirement had changed since having a child with a disability, particularly due to the financial needs of children. Household financial circumstances, caregiving, spouse’s plans, child’s living situation, affected decision-making around the timing of retirement, with many mothers feeling as though there wasn’t much choice in the matter. One mother captured the complexities of the decision process below:

Obviously, what's paid off? . . . Probably, do I feel like I have more to offer to my career? Can I truly afford it? You know where will (my child) be at that point? Is he going to be with us or is he going to be living somewhere else? A lot of questions on that.

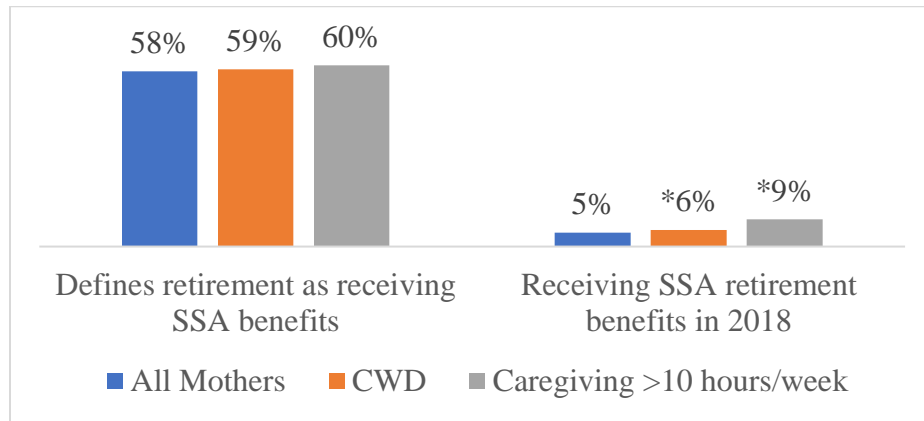
Another highlighted the importance of financial stability for both her and her child:

You know, I'm projecting myself to be at a transitional point at 72, because I think I need to be earning up until that point in order to make sure that I have more set aside for my daughter. And I don't consider my needs to be primary. I consider hers to be primary in terms of resources. So I, you know, have always kind of thought everything I'm putting in the pot is, you know, 50% mine, 50% hers.

Mothers noted that they figured SSA benefits into their retirement planning but did not expect to rely on them. Rather, most reported that employer-sponsored or personal investment-based retirement accounts would be the primary sources of their retirement income. Many had only a general sense of their retirement’s household income resources. Our quantitative analyses

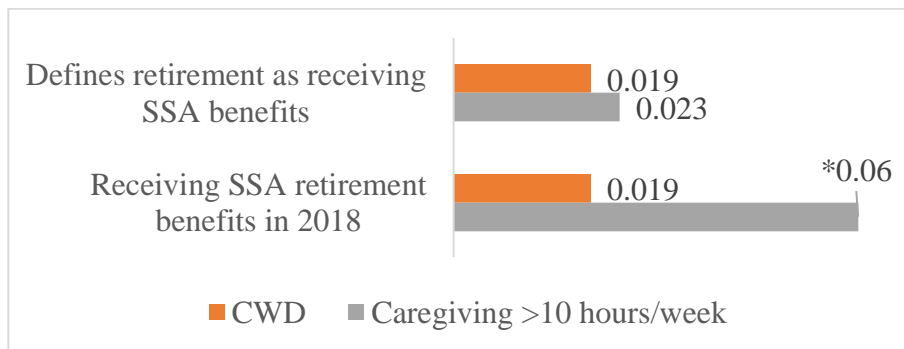
yielded some additional information about SSA benefits for this sample of families. At the time of the 2018 NLSY interview, mothers with significant caregiving responsibilities were more likely to be receiving SSA retirement benefits than the full sample of mothers (9% compared to 5% of all mothers). In a multivariate context, when controlling for other characteristics, these mothers were 6 percentage points more likely to be receiving SSA retirement benefits.

**Figure 1: Percent of Mothers NLSY Analytic Weighted Sample Who Define Retirement by SSA Receipt and Percent Receiving SSA Benefits in 2018**



Source: Authors' calculation using the NLSY79. \*Indicates statistically significantly different from full sample at  $p < .05$

**Figure 2: OLS Estimates for Impact of Child's Disability and Caregiving on SSA Retirement Outcomes**



Source: Authors' calculation using the NLSY79. \*Indicates statistically significantly different from full sample at  $p < .05$

## Policy Considerations and Conclusions

Our findings demonstrate the importance of broad policies that provide support for families and targeted policies to provide specific support for families with a child with a disability. We heard extensively from mothers about the importance of workplace flexibility and additional caregiving support, highlighting the importance of access to paid family leave and expanded access to early care and education, all of which can provide support for caregiving and could have positive implications for women's retirement. Additionally, we heard from mothers that they are less able to work during the child's youth and may need to continue to work and provide intensive caregiving into their retirement years and their child's adulthood. Investments in programs and policies that provide adequate economic support for people with disabilities and their families could facilitate a more equitable transition into retirement. Existing policies such as the Earned Income Tax Credit and the Child Tax Credit could expand benefits for families with a child with a disability. SSA considerations include understanding the role of asset limits in retirement savings for families who receive Supplemental Security Income (SSI) payments.

Outreach and information to ensure families understand SSA benefits and eligibility may also be warranted. We heard from mothers that they will continue to work through traditional retirement years and also see evidence of this in our quantitative estimates. This highlights the importance for families of understanding claiming and eligibility, particularly related to earnings limits. Additionally, we heard from mothers that SSA benefits were not a primary driver of their retirement decisions; this might suggest a role for targeted outreach for families with a child with a disability, and single-parent families in particular.

Our findings indicate the importance of continued research for topic. Existing quantitative measures of disability and parental retirement are limited; data collection efforts focused specifically on this population of families may further our understanding. Further, that we heard significant financial concerns about retirement reported from our racially homogenous, financially well-off sample underscores the importance of focusing on more diverse samples; economically-disadvantaged samples may also provide more insight into the role of SSA benefits. Overall, as the number of children with identified disabilities grows, we can anticipate more families facing these questions in coming years, adding some urgency to research in this area. Though our work highlights the importance of this topic, there is still much to learn about economic well-being of families and the experiences of more diverse samples.

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## **Panel 2: Improving Social Security Knowledge**

*Moderator: Laith Alattar, Social Security Administration*

UM22-12 “Disparities in Social Security Knowledge and the Role of Social Capital”

***Katherine Carman**, RAND*

*Jhacova Williams, RAND*

NB22-15 “The Role of Stock-Flow Reasoning in Understanding the Social Security Trust Fund”

*Megan E. Weber, University of California, Los Angeles*

*Hal E. Hershfield, University of California, Los Angeles*

***Stephen A. Spiller**, University of California, Los Angeles*

*Suzanne B. Shu, Cornell University & NBER*

WI22-10 “Enhancing Trust in the Social Security Administration and EGovernment Among People Targeted by Fraud”

***Stephen Wendel**, Action Design Network*

***Marti DeLiema**, University of Minnesota*

*Cliff A. Robb, University of Wisconsin-Madison*

## **Disparities in Social Security Knowledge and the Role of Social Capital**

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24<sup>th</sup> Annual Meeting of the Retirement and Disability Research Consortium

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Effective communication from the Social Security Administration (SSA) to beneficiaries about Social Security Benefits is needed to allow the public to make informed decisions. Determining how much one could receive from retirement, disability, spousal, or survivor benefits is complex, because it requires people to understand not only how these benefits are calculated, but also to have detailed information about their earnings history and understand the impact of timing of claiming on future benefits. Knowledge and understanding of these complex programs are likely to vary across racial and ethnic groups. One reason for these disparities may be that the social capital and the informal sources of information that people rely on may differ by race. In order to design effective communication, SSA would benefit from understanding if there are formal or informal channels for communication that may more effectively address different populations. Our research uses newly collected survey data to assess how the public searches for information in times of need, with a focus on disparities in knowledge and sources of information. These results will help SSA better understand how beneficiaries find information about Social Security programs and then make recommendations about how communication could be targeted to underserved communities.

This work builds on our past work (Carman and Hung 2018) which found limited knowledge of Spousal and Survivor benefits, and that actual knowledge and perceptions of knowledge can be misaligned. Work being conducted in parallel in another RDRC project (by Knapp and Perez-Arce (in progress)), has found significant differences in knowledge about Social Security and its various programs by race. Knowing that there are important disparities in knowledge, our work seeks to understand how different sources of information might contribute to these disparities. We examine where people anticipate that they would turn for information in times when they might be eligible for Social Security benefits. In some situations, we ask about the Social Security in particular; in other cases, we ask only about situations where one might be eligible for benefits but do not specifically mention Social Security or its programs. The goal was to focus people's attention to the times when we as researchers know that Social Security benefits matter, but not to bring unnecessarily focus to the programs themselves. This allows us to gain insight into where they would turn for information in those situations, rather than presuming that that they were knowledgeable about Social Security programs.

Knowledge of Social Security may come from a range of sources including formal channels, such as Social Security statements and employers, and informal channels, such as



friends, family members, co-workers, or community organizations, including churches. These informal channels shape the social capital that people have access to, and may shape the information that is available about Social Security programs. Because the nature of social networks may differ across racial and ethnic groups, sources of information about Social Security may differ as well. Effective communication regarding Social Security programs should consider where people get information and take advantage of existing social capital.

## **Data**

We fielded a survey in the Understanding America Study (UAS) designed for this study. The Understanding America Study is a nationally representative online panel of respondents who participate in regular surveys on a variety of topics. Respondents are recruited to the panel using address-based sampling. 4,000 panel members were invited to participate in the survey; respondents were limited to those under 70 and we oversampled respondents who were Black, Hispanic or another non-White group. The survey went into the field on June 3, 2022, at the time of writing (July 21) 2,793 had responded; to maximize response particularly by historically underserved groups we are leaving the survey in the field as long as possible. Note that because the results are not final, currently the results are unweighted. Given the oversample of non-White respondents, these results should be interpreted cautiously.

The survey was fielded in both English and Spanish. The survey was approximately 9 minutes and included four blocks of questions. Respondents were asked about sources of information in 6 scenarios: 1) When making decisions about planning for retirement; 2) When making decisions about Social Security (such as when to claim); 3) a situation where your health has declined and you cannot do your job anymore; 4) a situation where you have children under 18 and your spouse or partner has died; 5) a situation where you are 61 years old and your older spouse or partner has died; and 6) a situation where your elderly parent has died. Respondents were provided a list of 15 or 16 potential sources of information and asked if they would turn to that source of information (yes, no, don't know). The full list of sources is shown in Table 1.

## **Where do people turn for information in times of need?**

We first consider where people turn for information by averaging across all six scenarios, and highlight any key differences in specific scenarios, to assess what fraction of respondents report that they would reach out to a particular source of information. Table 1 reports the results. The first column averages across each of the 6 scenarios, which are shown in the next six

columns, and each of the rows describe the different sources of information. The final row shows the total number of sources of information in each scenario selected by respondents. We use a heat mat, with darker colors highlighting larger percentages and lighter colors indicating smaller percentages, allowing us to more easily identify patterns. In each scenario, respondents report on average that they would turn to about 6 to 7 sources of information.

**Table 1: Percent of Individuals Reporting Use of Each Source of Information in Each Scenario**

		Planning for Retirement	Social Security	Health Decline Affecting Ability to Work	Death of Spouse, Minor Children	Death of Spouse, Retired	Death of Elderly Parent
Family	85	76	75	87	91	89	92
Friends	75	64	63	75	83	83	81
Employer	47	51	50	69	46	36	30
Co-workers	39	42	40	45	46	35	32
Social Services	53	56	54	58	58	52	41
Religious Org	31	13	12	29	41	43	45
Local School	6	4	3	4	18	5	4
Local Community Org	25	18	16	27	35	29	22
SSA	70	89	89	66	59	68	50
Local Senior Center	22	25	24	23	12	30	19
Medical Care Provider or Hospital	34	22	21	65	29	37	29
Financial Advisor	51	63	63	47	47	51	37
Internet	58	67	65	59	54	53	47
Social Media	12	11	9	12	14	12	13
Library	20	24	23	20	19	17	15
Funeral Home	55				51	55	58
Number of Sources	6.6	6.2	6.1	6.9	7.0	7.0	6.1

Unsurprisingly, across all scenarios, the most common source of information is family and friends. On average, 85% and 75% of respondents report that they would turn to friends and family for information across the six scenarios. Co-workers are a less common source of information, although most common for planning for retirement.

70% of respondents in the UAS report they would turn to the Social Security Administration for information across the six scenarios, but this is higher for planning for retirement and for specific decisions about Social Security. An important caveat here is that the

UAS fields many surveys about Social Security, and it is possible that these respondents are more attuned to the programs available from SSA than the general population. Nevertheless, it is interesting that the respondents are far less likely to report that they would turn to SSA following the death of a spouse if they had minor children, suggesting that there may be less knowledge of survivors benefits for minors.

Organization that provide support in communities, such as Social Services, schools, religious organizations (such as churches), local community organization, senior centers, medical care providers, and libraries are potential source of information in the scenarios we describe. Their anticipated use varies across organization type and across scenario. Social Services are seen as a potential source by approximately half of respondents and roughly equally across scenarios. But community organizations, including senior centers, religious organizations, and libraries tend to be reported by smaller shares, ranging from 20 to 31 percent of respondents. Schools unsurprisingly, are primarily seen as a resource when thinking about the death of a spouse if you have minor children. Medical care providers are mentioned 34 percent of the time. We can also calculate how many of these different local organization a given individual might contact. Here we find that averaging across all 6 scenarios, people report that they would reach out to a median of 1.5 and a mean of 2 of the seven organization types, and in each scenario 70 to 85 percent of respondents say they would reach out to at least one organization. This is important because dissemination strategies that reach only some organization types may not reach as many individuals, while dissemination strategies that consider many different organization types have the potential to reach larger fractions of the population.

### **Do sources of information differ by race and ethnicity?**

For each scenario, we also examined differences in reported sources of information by race and ethnicity. Overall, the patterns are very similar across each of the different scenarios. All groups (and in all scenarios) consistently report turning to friends and family most often. Compared to other racial and ethnic groups, Non-Hispanic White respondents are more likely to turn to Employers and Financial Advisors. Compared to other racial and ethnic groups, Non-Hispanic Black respondents are more likely to turn to Social Services, Religious organizations, Senior Centers, Medical Care providers, and Libraries. Compared to other racial and ethnic groups, Non-Hispanic Asian respondents are more likely to turn to Employers, Co-Workers,

Community Organizations, Medical care providers, the internet, and social media. Hispanic respondents tend towards the middle across racial and ethnic groups.

## **Conclusion**

Previous and ongoing research has found disparities in knowledge about Social Security programs. Some programs, such as Retirement benefits, may not be well understood by all, but if people are aware of their existence, they are likely to benefit from them, albeit perhaps not with optimal advance planning. For other programs, such as Survivors benefits, especially for minor children, if people are unaware of the benefits, they may fail to take advantage of them or delay claiming unnecessarily. Social Security can help to address the potential impacts of disparities in knowledge by targeting information about programs to the places where people are already looking for information to support them in times of need. In this research, we investigate where people get information, not about Social Security, but rather at times when Social Security may provide them with benefits. We find that there are a wide variety of sources of information that people approach in times of need. Notably, different racial and ethnic groups expect to make use of different sources of information in these times. To best address disparities in knowledge, information campaigns should consider differentiating channels of information to better engaged less well-informed groups. Some groups would benefit from information from religious organizations, while others will turn to their medical providers, and others draw on community organizations. If these groups are prepared to point people to Social Security benefits, this may help to address disparities in knowledge of programs.

The inclusion of friends and family source of information in our survey is necessary because it is clearly important to how people deal with these difficult times, but it is unlikely to provide a potential direct channel for the Social Security Administration to improve communication to less informed groups. However, most people's social networks exhibit homophily, with their friends sharing many similar characteristics. Thus, if individuals turn to their friends and family or a specific subset of organizations for support, and in times of their own need friends and family turn to the same set of organizations gaps in knowledge can persist within social networks. Expanding communication about Social Security programs to a broad set of organizations that serves different groups of people may help to improve overall knowledge of programs as information will spread through social networks.

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## **The Role of Stock-Flow Reasoning in Understanding the Social Security Trust Fund**

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## Background

Social Security's Old Age and Survivor's Insurance (OASI) and Disability Insurance (DI) programs are funded by payroll taxes collected from workers. Longstanding accounts known as the trust funds are used to store and invest excess tax income – and pay out benefits if yearly obligations exceed the amount brought in. The Board of Trustees releases an annual report on the financial health of the trust funds, and in recent years, these reports have projected a long-term funding shortfall that will lead the trust funds to become depleted in the near future (Social Security and Medicare Boards of Trustees, 2022). Media coverage often focuses on this impending insolvency without as much emphasis on what will happen to benefits, perhaps contributing to the common misperception that benefits will dry up in the future (e.g., Parker, Morin, & Horowitz, 2019).

In this research, we propose that a key difficulty in understanding the Social Security trust funds may arise from a stock-flow reasoning error. The cumulative amount of a resource, like the amount of water in a reservoir, is a “stock.” The changes in the amount of a resource over some defined period, like water flowing into and out of a reservoir, are the “flows.” Given an initial value of the stock, there is a one-to-one correspondence between the stock and the net flow: the stock is the integral of the net flow, and the net flow is the derivative of the stock. As a result, given either a time series of the stock over time or a time series of the flows over time (with a starting or ending value of the stock), the information content is calculably the same. But calculus is difficult. As a result, people do not respond to the two presentations in the same way.

Extensive past research has documented both stock-flow failures (errors in translation from one form to the other; e.g., Booth Sweeney & Sterman, 2000; Cronin, Gonzalez, & Sterman, 2009) and stock-flow inconsistencies (qualitatively different evaluations and forecasts of the same information presented in one way or the other; e.g., Spiller, Reinholtz, & Maglio, 2020) across a number of domains. For example, if given a series of deposits to and withdrawals from a checking account, people have difficulty correctly determining when the balance is highest (a stock-flow failure). Moreover, if the balance is decreasing at a decreasing rate, people who see the balance may claim the financial situation is deteriorating, whereas people who see the flows may claim the financial situation is improving (a stock-flow inconsistency).

Together, these problems have meaningful implications for public understanding of the Social Security trust funds. Taxes and interest flow into the funds, and benefits and

administrative expenses flow out of the funds; when inflows exceed outflows, the balance increases, and when outflows exceed inflows, the balance decreases. Thus, accumulation and decumulation in the trust funds is a textbook stock-flow reasoning problem. Additionally, media characterization of the situation may not unambiguously distinguish the balance of the trust funds from the flows of the trust funds, perhaps contributing to misperceptions about the consequences of long-term funding shortfalls (Quinby & Wettstein, 2021). In the present work, we experimentally vary the presentation format of information about the trust funds, focusing on how stock vs. flow information influences perceptions of what will happen to benefits as a result of depletion. We find that respondents presented with stock (vs. flow) information are more likely to believe that when the trust fund balance is depleted, benefits will cease altogether.

## **Studies**

We conducted two studies to begin testing these research questions, using Amazon's Mechanical Turk to recruit participants. Both studies were preregistered prior to data collection.

### ***Study 1***

In Study 1 (N = 1,001) participants read a brief description about the OASDI trust funds and were randomly assigned to see an accompanying graph that showed either the balance (*stock* condition) or total income and expenditures (*flows* condition) of the trust funds for the period 1994 through 2034.<sup>1</sup> Next, we asked participants four key objective understanding questions: (1) when total costs did/will begin to exceed income; (2) when the trust funds did/will become depleted; (3) what will happen to benefits if trust funds are depleted; and (4) after depletion, what the monthly retirement benefits amount would be for someone expecting \$1000/month.

We coded answers to the first three objective understanding questions according to accuracy, using logistic regressions to test for differences across condition. There was no significant difference across conditions in accuracy for the question about when costs began to exceed total income ( $b = 0.00$ ,  $z = -0.01$ ,  $p > .99$ ), though a larger proportion of participants in the stock condition (80%) correctly identified when the funds were projected to become depleted, compared to the flow condition (72%;  $b = 0.21$ ,  $z = 2.87$ ,  $p = .004$ ). Most interestingly, those in the stock condition were more likely to incorrectly answer that benefits would completely go away as a result of depletion (64%) than those in the flows condition (56%,  $b =$

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<sup>1</sup> The description was based on the 2022 Trustees Report, and the data were taken from the 2022 Supplemental Single-Year Tables (specifically, Table VI.G8 available at <https://www.ssa.gov/oact/TR/2022/lr6g8.html>).

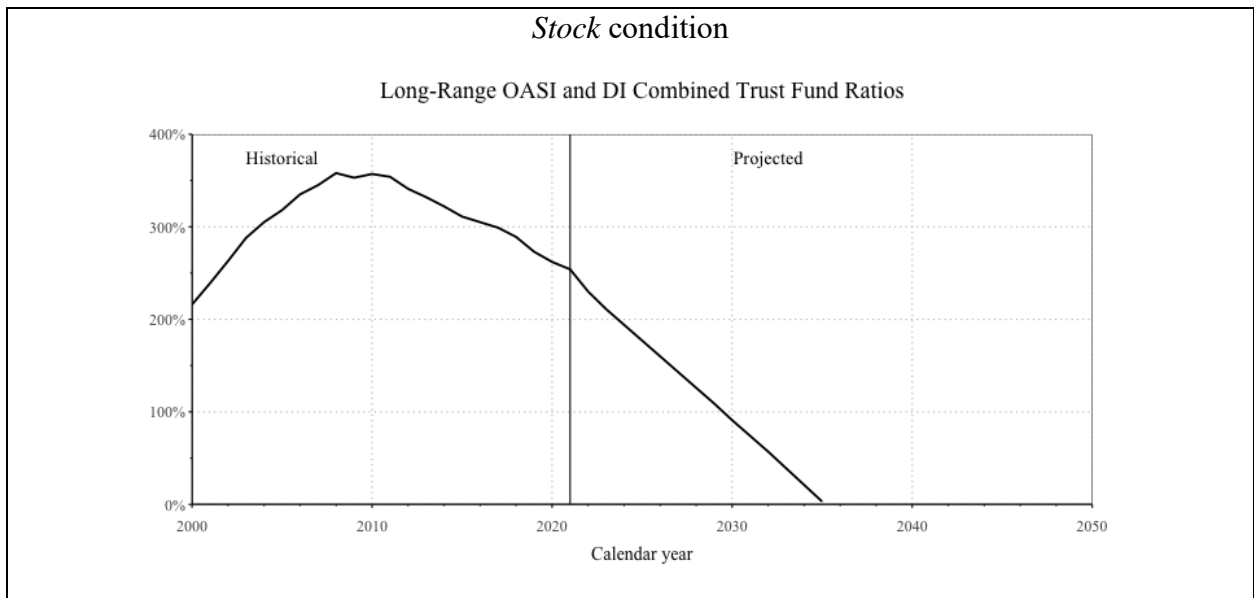


0.17,  $z = 2.62$ ,  $p = .009$ ). We analyzed the fourth question (about the benefits amount someone expecting \$1000/month would get after depletion) as a continuous variable<sup>2</sup>. As expected, the average benefits amount was significantly lower for those in the stock condition ( $M = \$239.42$ ,  $SD = \$356.10$ ) compared to those in the flow condition ( $M = \$313.77$ ,  $SD = \$391.18$ ;  $b = -37.00$ ,  $t(996) = -3.13$ ,  $p = .002$ ). To put these numbers into context, based on the 2022 Trustees Report, revenue post-depletion is projected to be sufficient to pay 75-80% of scheduled benefits.

**Study 2**

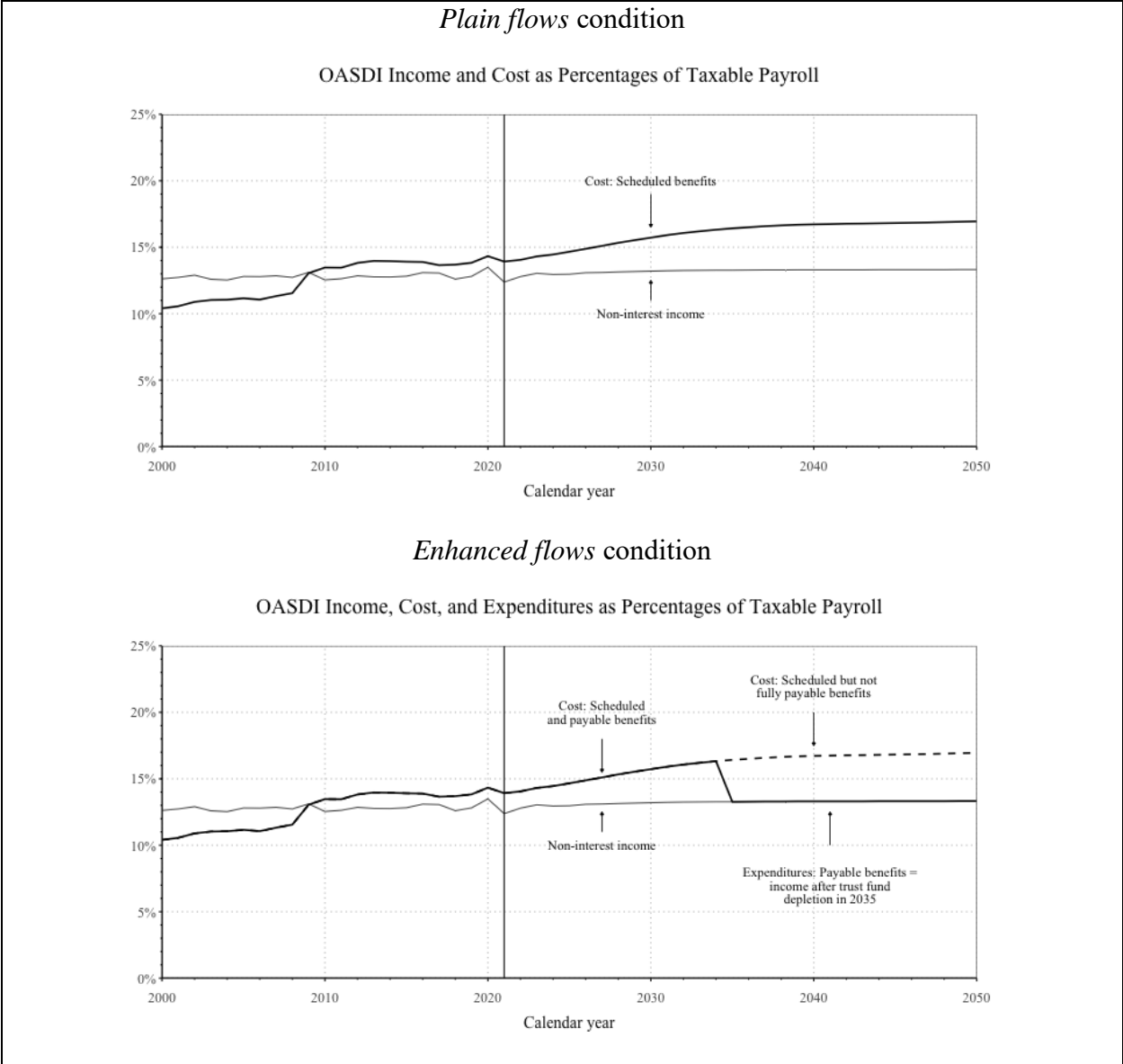
Study 2 (N = 1,503) was designed to investigate whether our main findings would replicate with graphs more closely based on those typically included in Trustees reports and added a third “enhanced flows” condition that showed information on payable benefits. We included this condition to explore whether this additional information on payable benefits would further enhance understanding by making it clear when and how benefits would be impacted. The survey was similar to Study 1, starting with a written description about the trust funds and randomly assigning participants to see one of three graphs displaying information about the combined OASDI trust funds (stock, plain flows, or enhanced flows; see Figure 1).

**Figure 1. Stimuli for Study 2<sup>3</sup>**



<sup>2</sup> Since this question was only asked of those who indicated in the prior question that benefits would be smaller or larger, we treat those who indicated that benefits would go away completely as giving an answer of \$0 to this question and those who indicated that benefits would stay the same as giving an answer of \$1000. Answers above \$2000 were excluded.

<sup>3</sup> SSA graphs Study 2 stimuli were based on: [https://www.ssa.gov/oact/TR/2022/II\\_D\\_project.html#105057](https://www.ssa.gov/oact/TR/2022/II_D_project.html#105057) (Figure II.D6 for the stock graph and Figure II.D2 for the plain flows and enhanced flows graphs)



The dependent variables in this study are the same as in Study 1<sup>4</sup>. There were no significant differences across conditions for accuracy on the question about when costs began to exceed (non-interest) income (stock vs. plain flows:  $b = 0.00$ ,  $z = 0.00$ ,  $p > .99$ ; plain vs. enhanced flows:  $b = -0.16$ ,  $z = -1.21$ ,  $p = .22$ ). In contrast with Study 1, however, there were also no significant differences for the question about when depletion would happen (stock vs. plain flows:  $b = 0.15$ ,  $z = 1.08$ ,  $p = .28$ ; plain vs. enhanced flows:  $b = 0.12$ ,  $z = 0.87$ ,  $p = .38$ ). Our main results about understanding of what would happen to benefits were replicated such that

<sup>4</sup> Because these Social Security graphs (and thus, our stimuli) use non-interest income, we updated the dates and other details in the description and adjusted our coding for accuracy to accommodate this change.

those in the stock condition were more likely to choose the wrong answer about benefits going away completely (61%) than those in the plain flows condition (54%;  $b = 0.29$ ,  $z = 2.22$ ,  $p = .027$ ). Contrary to our expectations, however, the enhanced flows condition did not provide a further reduction in inaccuracy on this question (54%), as the difference between the plain flows and enhanced flows condition was not significant ( $b = -0.01$ ,  $z = -0.04$ ,  $p = .96$ ).

Finally, we analyzed data for the question about the expected benefits amount after depletion using the same method as Study 1. Replicating Study 1, those in the stock condition ( $M = \$264.18$ ,  $SD = \$373.23$ ) thought benefits would be significantly lower than those in the plain flows condition ( $M = \$317.88$ ,  $SD = \$390.25$ ;  $b = -52.66$ ,  $t(1495) = -2.15$ ,  $p = .032$ ). However, the difference between the plain flows and enhanced flows condition was not significant ( $M = \$320.53$ ,  $SD = \$396.45$ ;  $b = 3.79$ ,  $t(1495) = 0.15$ ,  $p = .88$ ), providing further evidence that the inclusion of the payable benefits line did not necessarily improve understanding.

## **Conclusion**

Because current projections suggest that the Social Security trust funds will be depleted by 2035, it is critical that researchers and policymakers alike determine how best to communicate information about the situation to consumers. Across two studies, we found preliminary evidence of differences in stock-flow reasoning in the context of the trust funds. Namely, results from our studies suggest that presenting the information as a stock leads to more inaccurate perceptions about what will happen to benefits payouts as a result of depletion: relative to those in the flows conditions (who saw graphs that showed income and costs), more respondents in the stock condition (who saw graphs that referenced the balance of the trust funds) thought that benefits will go away completely. These results hold practical importance as they suggest that framing trust funds information in terms of flows may help overcome misconceptions. Such framing, however, is not a panacea: more than half of those in the flows conditions still incorrectly answered questions about benefits payouts, and further work is needed to better understand why de-biasing attempts were only weakly successful.

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**Enhancing Trust in the Social Security Administration  
and E-Government Among People Targeted by Fraud**

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24<sup>th</sup> Annual Meeting of the Retirement and Disability Research Consortium

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## **Abstract**

One of the insidious effects of government imposter scams is the potential erosion of trust among those who are targeted – fraud targets may learn to distrust communications and people who claim to be from the Social Security Administration (SSA) or other federal agencies. This interferes with the necessary and beneficial work of the SSA, and more broadly of the U.S. government.

This study analyzes how individuals targeted by government imposter scams respond to communications from the SSA, and how the SSA can reinforce public trust and willingness to engage. Specifically, the team developed an application to teach individuals how to identify legitimate SSA communications, then tested them in randomized trials on multiple national samples of Americans.

We find evidence that an interactive training can help people both trust real communications and identify scams. The impact is more pronounced for emails than for websites, and for government communications than for business communications such as Amazon. A non-interactive training provides a lesser, but still significant effect. Using the same national samples, we find nearly universal exposure to fraud attempts, low prevalence of being tricked by those attempts, and a set of personal characteristics that appear to predict low trust in the SSA and other institutions.

## **Background**

Imposter scams, including the Social Security Administration (SSA) imposter scam, are the most common type of consumer fraud reported to the Federal Trade Commission (FTC, 2022). In an imposter scam, a scammer pretends to be another person or entity, such as a government agency or well-known business, to gain the target's trust, and then exploits that trust to extract personal information and money. Consumers who are exposed to these scams may end up losing a substantial sum—median reported losses are \$1,000 per person (FTC, 2022). Victims may also experience additional social and emotional consequences such as shame and depression (Button, Lewis, & Tapley, 2014).

To date, no research has examined what effect exposure to imposter scams has on consumers' trust in communications from real federal agencies and prominent retailers, and more specifically, what factors increase the perceived credibility of communications and willingness to

respond or engage. The SSA, and the US Government overall, would benefit from having field-tested and validated techniques to help build and recover trust with consumers exposed to imposter scams.

A substantial body of research has shown a steady decline in the public's trust in government since the 1960s (American National Election Studies, 2016). Declining trust has negative implications for public policy; for example, Chanley, Rudolph and Rahn (2000) found that declining trust in government leads to reduced support for government spending in many domains, and Bélanger and Carter (2008) report that distrust leads to resistance to engage in online government communications and services, or "e-government". In a recent article, Goel (2021) suggests that imposter scams can undermine the government's authority to administer laws and enforce policies. Impersonation schemes also consume law enforcement resources and redirect agency efforts toward educating the public about fraud rather than administering vital programs.

In a qualitative study that examined the socioemotional outcomes of fraud, Button, Lewis, and Tapley (2014) found that many victims "were more cautious about making decisions involving finance, using their credit card and purchasing items on the internet" (pg. 51). Although additional caution is wise, excess vigilance and undue trust can have negative economic consequences. For example, Gurun and colleagues (2018) found that investors in communities more exposed to Bernie Madoff's Ponzi scheme subsequently withdrew more assets from their investment advisers and increased deposits at banks, leading to lower returns. These investors also reported larger declines in confidence in the criminal justice system. In an Indonesian sample, Rofiq (2012) found that the more times consumers were exposed to cyber-fraud, the more resistant they were to participate in e-commerce. Additional research is needed to understand whether training consumers to discriminate between trustworthy communications and fraudulent appeals can effectively rebuild trust among individuals previously exposed to fraud.

## **Methodology**

This study sought to answer several research questions:

- 1) Are previous targets of fraud, including government imposter scams, more or less trusting of government communications than individuals who have not been targeted (or who have previously ignored targeting attempts)?

- 2) Can a simple, online intervention help increase trust in communication from agencies like the SSA by training consumers to differentiate between legitimate and fraudulent messages/credentials and learning about the specific purposes and benefits to the individual of legitimate SSA outreach?

To answer these questions, we developed a platform in which participants:

- 1) Completed a series of questions to capture socioeconomic information and prior experience with government representatives and fraudsters posing as government representatives.
- 2) Were randomly assigned to either:
  - a. Interact with mocked government communications via simulated emails, websites, and (digitized) letters, learning what to look for (i.e., “trust building”). This treatment involves interactive challenge-response scenarios, similar to the pre-bunking approach used in our prior SSA-funded fraud detection work;
  - b. Receive ‘quick heuristic’ guidelines about what to look for to verify government communications (such as .gov domains), covering the same concepts included in the interactive experience but in a static form;
  - c. Receive general information about social security interactions; or
  - d. Read an unrelated article of approximately the same length and complexity.
- 3) Were presented with a series of emails, websites, and (digital) letters in realistically mocked interactions to see if individuals recognize authentic ones against a backdrop of other potentially fraudulent or misleading communications.

We have deployed the study on two nationally representative (quota balanced) samples of 1,200 Americans each thus far. In the remaining time for the project, we will deploy it on an additional national sample to test the effect of time on the intervention’s, power, and on a unique population of fraud victims and targets who previously reported a scam using the BBB’s Scam Tracker application.



## Findings

We find that those randomized to the interactive training condition performed significantly better than the control group at correctly labeling legitimate communications as real and fraudulent communications as fake. The interactive training was:

- 1) Far more effective at helping people recognize scams than correctly identifying legitimate communications: a 12% increase versus a 4% increase.
- 2) More effective at helping participants accurately label emails relative to websites (15% increase versus 3%)
- 3) Not effective at helping participants correctly identify real versus fraudulent *letters*, which were intentionally not part of the training content. In other words, the training lessons did not port over to other communication mediums.

We found that 93% of the participants reported that they were exposed to fraud in the past, and that 6% were victims. Fraud exposure and fraud victimization were not significantly related to self-reported trust in the SSA or confidence in the US government. Those with higher income and education, all else being equal, tend to have higher confidence in the US government. Those who have previously experienced business imposter scams are less trusting of interactions and transactions on the Internet.

## Implications

Beyond the specific finding that an interactive training can help people distinguish between real and fraudulent communications, a few broader implications arise. First, it is noteworthy that the non-interactive training, which employed the sample lessons in a simple textual form, does provide a lesser but statistically significant benefit, and requires no special platform for deployment.

Second, the study helps us start to understand some of the risks of basing policy on existing self-reported fraud datasets: while over 90% of our participants indicated they had experienced attempted fraud (and often had experienced more than one attempt), only 25% had ever reported an attempt to the authorities. Official fraud datasets provide only a fraction of the total exposure.

Third, it is noteworthy what we did not find. Beyond trust in the Internet interactions, we

did not find a strong consistent relationship between prior scam exposure and distrust. This may be because the population is simply saturated with attempted scams.

## **Dataset**

All data and code used for the study are available at <https://github.com/sawendel/SSATrust>. The dataset includes information gathered on two nationally representative (quota balanced) samples of Americans, and includes:

- 1) Socioeconomic and demographic information about participants,
- 2) Information about participants' prior experience with fraud,
- 3) Data on participants' initial level of trust and willingness to engage with the SSA,
- 4) The impact of targeted interventions on their trust and engagement.

Both the raw data, the cleaned and processed data, and the results tables for each version of the study, including early test cases are included on the site. The code is open source and includes both the research platform used to conduct the study, and the Python scripts used to analyze the output.

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## **Panel 3: Leveraging New Data to Measure and Address Racial Disparities**

*Moderator: James Choi, Yale University*

BC22-11 “Racial Disparities in COVID-19 Experiences Among Older Adults with Disabling Conditions”

*Amal Harrati, Mathematica*

**Marisa Shenk**, *Mathematica*

*Bernadette Hicks, Mathematica*

*Ana Quiñones, Oregon Health & Science University*

NB22-06 “Income, Race, and Life Expectancy: A New Database to Measure Changes in Life Expectancy Over Time”

*Raj Chetty, Harvard University & NBER*

*Nathaniel Hendren, Harvard University & NBER*

*John Friedman, Brown University & NBER*

**Michael Stepner**, *University of Toronto*

**\*Summary not yet available due to journal restrictions.**

WI22-06 “The Power of Linked Administrative Data: Understanding Racial and Ethnic Differences in SSA and Means-Tested Benefit Receipt and Their Anti-Poverty Effects for Children in Multigenerational Families”

*Yonah Drazen, Institute for Research on Poverty (IRP) & University of Wisconsin-Madison*

*Lawrence M. Berger, IRP & University of Wisconsin-Madison*

**J. Michael Collins**, *IRP & University of Wisconsin-Madison*

*Molly Costanzo, IRP & University of Wisconsin-Madison*

*Hilary Shager, IRP & University of Wisconsin-Madison*

**Racial Disparities in COVID-19 Experiences Among Older Adults with Disabling  
Conditions**

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24<sup>th</sup> Annual Meeting of the Retirement and Disability Research Consortium

August 4<sup>th</sup> & 5<sup>th</sup>, 2022

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## **Introduction**

The impacts of the COVID-19 pandemic have been experienced unequally across both geography and social structure in the U.S. Older adults, racial minorities, and people living in underserved communities have been among those hardest hit by the myriad health and economic effects of the pandemic. These disparities have also spotlighted the force of pre-existing social and geographic inequalities in contributing to and exacerbating existing inequalities. For example, counties with higher shares of non-white populations have experienced higher rates of COVID-19 related deaths and hospitalizations (Schnake-Mahl and Bilal 2021), and people with disabilities who are non-white or with household incomes below the poverty level are significantly overrepresented in counties with higher COVID-19 incidence compared with other people with disabilities (Chakraborty 2021). People at the intersection of one or more of these identities may be particularly vulnerable (Bowleg 2020; Elnaiem 2020; Gonzales et al. 2021; Walubita et al. 2021). In light of this emerging evidence, more research is needed to understand the experiences of COVID-19 on people with disabilities of varying intersectional identities, namely disability status, age, and race/ethnicity, and how contextual factors such as social vulnerability and unemployment rates may contribute to unequal burdens of this pandemic.

Despite growing evidence about some marginalized communities, surprisingly little is known about the COVID-19-related experiences of people with disabilities, even though they are more likely to have an underlying health problem (Dixon-Ibarra and Horner-Johnson 2014; Stevens et al. 2014), delay or forego necessary medical care (Reichard et al. 2017), live in a congregate care setting (McConkey et al. 2016), and rely on assistance with personal care and practicing routine preventative measures (Armitage and Nellums 2020).

We examined the COVID-19 pandemic's effects on health, work, and financial experiences among adults over age 50. We compared differences in outcomes between older adults with and without disabling conditions. We considered intersectionality with racial and ethnic identity by examining differences across and within race/ethnic subgroups. Finally, we examined the role of contextual factors in any observed effects.

## **Data and Methods**

We used data from the Health and Retirement Study (HRS). The 2020 HRS included a module that considered the effects of the COVID-19 pandemic on older adults' ability to access healthcare, finances, and labor force participation. We also used the 2018 RAND-HRS

Longitudinal File and the HRS's Cross-Wave Geographic Information (Detail) Restricted Data file. We linked these files to the 2020 HRS file to determine the county of residence for each respondent in our sample. We excluded any participant that we could not match to the 2018 RAND file from our analysis because we used these data to define race and disability. We also excluded participants who were under 50 years old. Finally, we limited our sample to those who completed the COVID-19 module. Our analysis sample contained 8,828 older adults.

We defined a disabling condition based on whether a respondent had ever reported having difficulties with one or more ADL or IADL in any wave of the HRS through 2018. We chose this measure to reflect disability status among our sample because it is not age or work-specific.<sup>1</sup>

For our county-level analysis, we drew from several publicly-available data sources to characterize aspects of potential COVID vulnerability.<sup>2</sup> We considered a total of eight county-level contextual factors: COVID cases per capita, pandemic and social vulnerability index scores, racial segregation, hospital bed capacity, years of potential life lost, unemployment rate, and share of people receiving government assistance. Based on prior evidence, we hypothesized that these factors would plausibly have important influences on individual-level COVID outcomes. We linked these data to the individual-level HRS data through the county FIPS code available in the HRS Cross-Wave Geographic Information file.

Our primary results are regression-adjusted for race/ethnicity, disability status, and personal characteristics (gender, birth year, education, marital status, cohort, and number of long-term health conditions), but are unweighted as the weights for the full HRS 2020 sample had not been released at the time of our analysis.<sup>3</sup> We produced descriptive statistics summarizing self-reported COVID-19 effects on health, work, and financial experiences for older adults by race/ethnicity and disabling condition. We used multilevel modeling techniques

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<sup>1</sup> We also considered two alternative measures of self-reported disability status: 1) the presence of a work limiting condition when the 2018 HRS survey was fielded and 2) receipt of SSI or DI benefits in any wave of the HRS through 2018. Results for these alternative measures of disability can be found in the appendix of our forthcoming manuscript.

<sup>2</sup> These data sources include: American Community Survey (ACS) 2016-2020 5-year estimates; the Agency for Healthcare Research and Quality's (AHRQ's) Social Determinants of Health (SDOH) beta file 2018; 2021 County Health Rankings; COVID-19 Pandemic Vulnerability Index (PVI) Model 11.2 daily county-level data; and COVID Act Now daily county-level data.

<sup>3</sup> Since the HRS weights are primarily based on descriptive characteristics similar to the characteristics we adjusted for, we believe our regression-adjusted results would be very similar to the results from a weighted analysis. Although we do not have weights for the full sample, the HRS released preliminary weights for the nationally representative early-release sample. We used these weights for sensitivity analyses.

to assess the role of contextual factors in explaining the differences between self-reported COVID-19 effects among those with disabling conditions and those without disabling conditions and by race/ethnicity. We focused this analysis on the three primary outcomes in our previous analysis: health care delays, financial hardship, and effects on work due to COVID-19.

### **Summary of Findings**

Many older adults reported negative impacts from COVID on their health, work, and finances. About a third of older adults reported delaying needed medical or dental care (31 percent), impacts on their work (29 percent), or financial hardships (31 percent). About 32 percent had been tested for COVID by the time of their survey, and only 4 percent had received a positive COVID diagnosis. Among those whose work was affected, almost half (44 percent) reported that they stopped working entirely. Among the most common financial hardships reported were not having enough money to buy food (9 percent) and having trouble buying food even if they had the money (16 percent).

Older adults with disabilities had more negative health and financial impacts compared to those without disabilities. For example, they were more likely to report a financial hardship (39 percent) compared to those without disabilities (26 percent). Similarly, more older adults with disabilities reported delaying needed health care (36 percent) than those without disabilities (27 percent). Although older adults with disabilities were less likely to have their work affected, among those whose work was affected half reported that they stopped working entirely (51 percent) compared to those without disabilities (41 percent).

There were differences in the share of older adults who reported health care delays, effects on work, and financial hardships by race/ethnicity. For example, White older adults were the least likely to report effects on work or financial hardships. Hispanic or Latino older adults were the least likely to report health care delays and most likely to report financial hardships.

We examined COVID outcomes by disability within race/ethnicity subgroups and found several intersectional impacts. First, within White, Black, and Hispanic or Latino older adults, those with disabilities were more likely to experience financial hardships and to stop working if their work was affected. Disparities across the groups were exacerbated: Hispanic older adults with disabilities were the most likely to report financial hardships (49 percent) while White older adults without disabilities were the least likely (19 percent). Similarly, Black older adults with disabilities were more likely than Black older adults without disabilities to report stopping work



(62 percent compared to 50 percent) – and both groups were more likely than White older adults with or without disabilities. Second, within each race/ethnicity subgroup older adults with disabilities were more likely to delay healthcare. For example, 17 percent of Hispanic or Latino older adults with disabilities reported delaying prescriptions compared to 6 percent of those without disabilities. This represents an 11 percentage point difference. Among all older adults, the difference by disability was 4 percentage points.

**Table 1. Self-reported COVID effects on health, work, and finances, by disabling condition**

	All older adults	Disabling condition	No disabling condition	<i>p</i> - value
Unweighted number	8,828	3,497	5,331	
<b>Health outcomes (%)</b>				
Ever received a COVID diagnosis	3.5	4.0	3.2	*
Ever tested	32.3	35.1	30.4	***
Delayed any type of health care since March 2020	30.7	36.3	27.2	***
Delayed surgery	13.1	15.9	10.5	***
Delayed doctor visit	57.2	58.5	56.2	
Delayed filling a prescription	7.3	9.4	5.2	***
Delayed dental care	72.2	70.8	73.6	
Delayed other health care	22.7	27.2	19.0	***
<b>Work outcomes (%)</b>				
Work affected because of the coronavirus pandemic	28.7	24.1	30.9	***
Work affected because of the coronavirus pandemic (among those working before pandemic)	38.6	35.5	40.0	***
Stopped work entirely	43.6	51.4	41.1	***
Income increased because of the pandemic	5.1	5.1	5.2	
Income decreased because of the pandemic	17.8	18.7	17.2	
<b>Financial outcomes (%)</b>				
Missed any regular payments on rent or mortgage	5.5	7.6	4.2	***
Missed any regular payments on credit cards or other debt	6.7	9.3	5.1	***
Missed any other regular payments (such as utilities or insurance)	7.1	10.3	5.0	***
Could not pay medical bills	6.2	8.7	4.4	***
Didn't have enough money to buy food	8.9	13.1	5.9	***
Had trouble buying food even though had money	16.0	19.7	13.4	***
No hardship	68.6	60.5	74.0	***
Other material hardship	6.9	9.0	5.5	***
Received stimulus payment in late 2020/early 2021	80.3	79.7	80.8	

Source: Authors' calculations using the HRS. Notes: \* Indicates  $p < 0.10$ , \*\* indicates  $p < 0.05$ , and \*\*\* indicates  $p < 0.01$ . Blanks indicate a  $p$ -value that is not significant at the  $p < 0.10$  level.

There were important differences in contextual factors for people with and without disabilities, across the full sample and within race/ethnicity subgroups. Moreover, non-White older adults with disabilities tended to live in counties that had higher COVID case counts and pandemic and social vulnerability scores, and lower levels of economic opportunity and health care access, relative to non-Hispanic White older adults with disabilities.

We also examined the association of contextual factors on individual experiences with financial hardship, delaying health care, and whether one's work was affected. We observed statistically significant positive associations with financial hardship for both disability and race/ethnicity across all models for all contextual factors, suggesting that an individual's disability status and race/ethnicity remain positive predictors of financial hardship due to COVID-19 even after accounting for contextual factors. We found only one significant contextual factor on the likelihood of declaring financial hardship due to COVID-19: years of potential years lost (YPPL). We did not see a consistent pattern of association between contextual factors and individual experiences with delayed health care or work being affected.

## **Conclusions**

We found that the COVID-19 pandemic had disparate impacts on the finances of older adults by disability status and race/ethnicity. To a lesser extent, it had disparate impacts on delays in health care and stopping work. Older adults with disabilities were more likely to live in counties with greater vulnerability, indicating that place matters. Individual race/ethnicity and disability status remained significant after accounting for contextual factors.

These findings have several implications. First, our work highlights the importance of a robust disability-inclusive public health response. This pandemic's disparate impacts on people with disabilities suggests that they may be similarly impacted by future public health events such as future pandemics or natural disasters. We also found evidence that suggests the importance of intersectional analysis. Older adults with intersecting identities of disability and marginalized race or ethnicity were more likely to have been negatively impacted by the pandemic. Finally, because financial impacts were so widespread and there were intersectional disparate effects on many types of financial hardships, policies mitigating financial impacts may be universally beneficial to older adults regardless of their other identities.

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**Understanding Racial and Ethnic Differences in SSA and Means-Tested Benefit Receipt  
and Their Anti-Poverty Effects for Children in Multigenerational Families**

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The research reported herein was pursuant to a grant from the U.S. Social Security Administration (SSA), funded as part of the Retirement and Disability Research Consortium. The findings and conclusions expressed are solely those of the author(s) and do not represent the views of SSA, any agency of the federal government, author affiliation(s), or the author's/authors' RDRC affiliation.

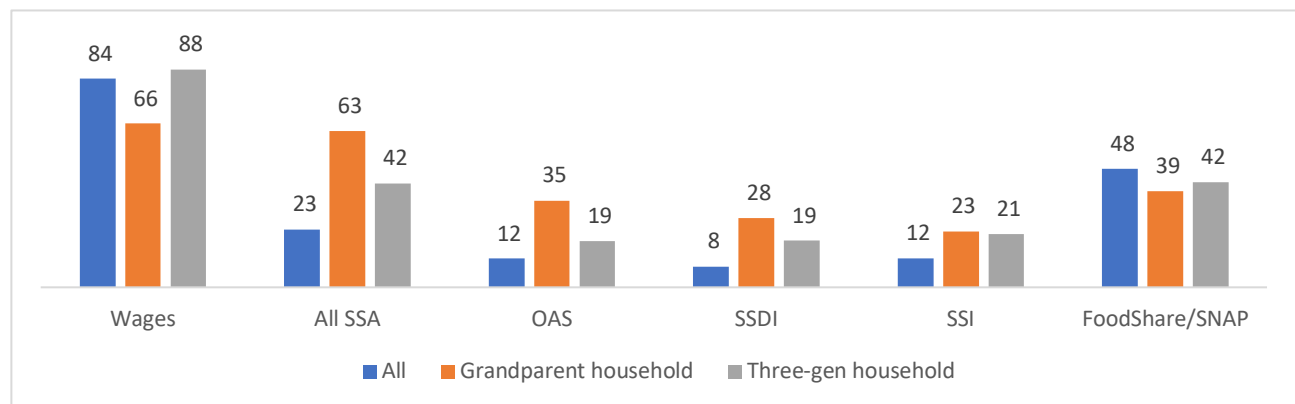
A growing share of children reside in households with caregivers, often their grandparents, who are not their biological parents (i.e., in “skipped-generation” or “grandfamily” households), or in three-generation households that include one or both of their parents as well as one or more grandparents (Pilkauskas & Cross, 2018). Such arrangements are more likely among families of color, families with very young children, and a growing number of low-income households in which one or more members receives Social Security benefits (Amorim, Dunifon & Pilkauskas, 2017; Pilkauskas & Cross, 2018). Access to such benefits may have important implications for child well-being; however, little is known about the extent to which Social Security Administration (SSA) programs provide support to households with children, including what proportion of which benefits go to such households, the anti-poverty effect of such benefits, and how benefit receipt and its anti-poverty effects may differ by family structure and race or ethnicity. This study uses a unique, longitudinal, linked state administrative data system to develop a more detailed view of government transfers for contemporary families. Specifically, the authors draw from the Wisconsin Administrative Data Core (WADC) to identify the extent to which SSA programs provide support to low-income households with children. The Institute for Research on Poverty (IRP) at the University of Wisconsin-Madison administers the WADC, including program participation and benefit receipt for all state-administered social welfare programs, as well as earnings data reported to the Unemployment Insurance program. The sample for this study includes 3,772,300 case-year pairs, or households, comprising of 677,461 unique cases. In 2019, the sample has 396,514 households; the Census reported the state of Wisconsin had 620,000 households with children under age 18 in that same year.

**Table 1 Summary Statistics (Mean (SD) / %)**

	All	Grandparent household	Three-gen household
Primary White	62.4	58.5	54.4
Primary Black	17.9	27.2	23.8
Primary Latina	13.8	7.9	15.7
Primary male	19.1	14.6	18.5
Primary Age	37.3 (10.0)	59.5 (8.4)	38.0 (15.0)
Count HH members	3.8 (1.5)	3.2 (1.2)	4.8 (1.7)
Any SSA program	21.0	59.6	40.3
Income 2019	34.5 (33.7)	32.7 (31.3)	39.7 (37.9)
N	3,772,300	66,225	276,495

*Source WADC/CARES: Notes: All dollar values are scaled proportionately by the number of cases each recipient is a participant in each year and CPI-U adjusted to 2019 dollars.*

**Figure 1 Percent of Household-Years with Income Source by Type**



*Source: WADC 2010-2019. Percent of household-years receiving at least \$1 by source in a year.*

Figure 1 shows the percent of household-years in which a household has a reported source of income. About 88 percent of three-generation households have income from wages, relative to 84 percent of the overall sample and just 66 percent of the grandparent sample. Nearly two-thirds of grandparent households have SSA program income, as well as 42 percent of multigeneration households, compared to just 23 percent of the overall sample. Grandparent households are far more likely to collect OAS, however, with 35 percent of these households having income from this source, compared to 12 percent overall and 19 percent for three-generation households. Grandparent households are also much more likely than other households to receive SSDI. This, in part, reflects the stronger work history requirements for these households to be eligible for OAS or SSDI. Grandparent households are less likely to receive SNAP/FoodShare or child support, however. SSI income is used by about one-in-five grandparent or multigeneration households in this sample, nearly twice the rate of the overall WADC sample of households with children.

About half of the focal population of low-income households with children is defined as being in poverty. This includes about 48.5 percent of the SSA-population overall, and almost 56 percent of SSI households. The lowest poverty rates are among OAS beneficiary households at 40 percent poverty. This reflects patterns throughout this analysis—OAS receipt is based on earning sufficient work credits, as is SSDI, though SSDI recipients, may have had their earnings capacity cut short during their prime labor market years. A household with at least one member who is receiving OAS benefits has economic support not only from SSA benefit income but also, potentially, savings and/or pensions from the work history that eligibility for the benefit implies.

People with little labor market activity may never be eligible for OAS or SSDI. It is important to note that children can also be beneficiaries under OAS and SSDI, including survivors or dependent benefits.<sup>1</sup>

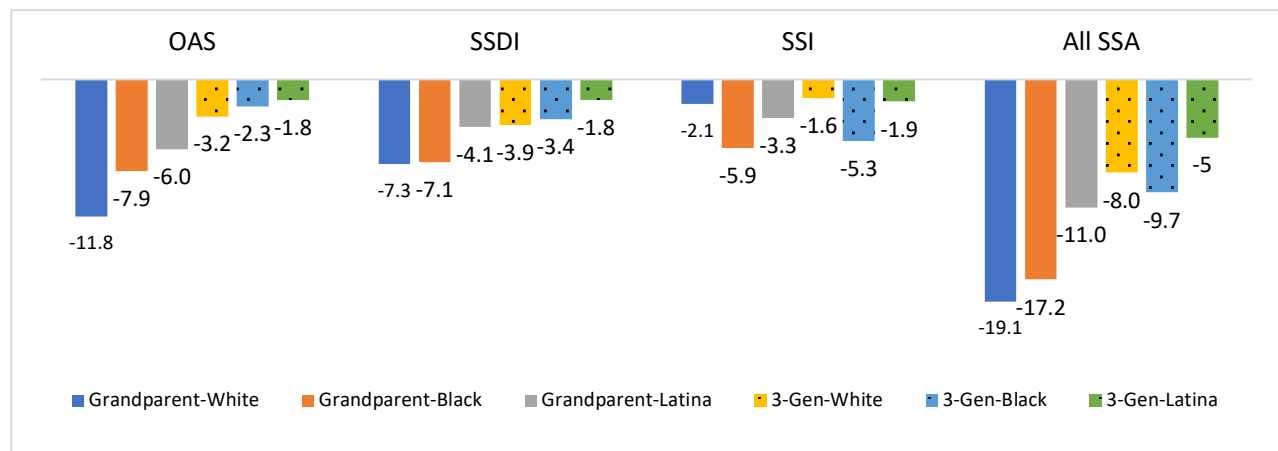
About 48 percent of grandparent households and 50 percent of three-generation households in our sample have incomes below the poverty threshold. If these households relied only on market income, their poverty rates would jump to 67 and 60 percent respectively. What accounts for the reduction in poverty rates? Ignoring SSA program income supports, the poverty rates for grandparent households and three-generation households would be 66 and 58 percent. Figure 2 shows the marginal reduction in poverty rates from SSA sources by household type and race. Starting among white households who are grandparent families, the relative reduction in poverty rates from OAS is about 12 points to a 48 percent poverty rate. Overall, white grandparent households show a reduction of 19 points due to all SSA programs, while white three-generation households show an 8-point reduction in poverty rates. Black grandparent households have a much higher poverty rate of 58 percent, but SSA programs reduce the poverty rate by 17 percentage points for grandparents and 10 percentage points for Black three-generation households. Latina grandparent households have an even higher 63 percent poverty rate, and an 11-point reduction due to SSA programs. Latina three-generation households have about a 61 percent poverty rate, with only a 5 point lower poverty rate due to SSA programs. Three-generation households who are Black and Latina experience larger reductions in poverty from SSI, and smaller reductions from OAS or SSDI, relative to white households.

Low-income households with children rely on a range of support programs beyond wages, but Social Security programs are a critical source of income for many. In this study with this unique sample of low-income families in Wisconsin, two-thirds of grandparent households and nearly half of three-generation households receive some support from Social Security, which is twice the rate of the sample overall. Overall, social Security programs reduce the poverty rate for grandparent households by nearly 18 points, and by 8 points for three-generation households.

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<sup>1</sup> A child under 18 can receive benefits if they have a parent who is retired or has a disability and is entitled to OAS or SSDI, or a parent who died after having worked long enough in a job where they paid Social Security taxes. In some circumstances benefits may continue to age 19. A stepchild, grandchild, step-grandchild, or adopted child may be eligible. A child can receive up to half of the parent's full retirement or disability benefits, or three-quarters in the case of survivors benefits. The maximum "family payment" is 150% to 180% of the parent's full benefit. See details at: <https://www.ssa.gov/pubs/EN-05-10085.pdf>

**Figure 1 Marginal Reduction in Poverty Rate by Program by Race and Household Composition**



Source: WADC

These results are consistent with prior studies showing that SSA programs reduce poverty (Meyer and Wu 2018), and especially SSI is especially among Black households (Martin and Murphy 2014). Our data show that Black households, have more support from SSI, while Latina households—grandparent and three-generation—receive less support from SSA programs.

While SSA income is important for the wellbeing of families with kids in general, it is especially important for three-generation and grandparent families. Understanding how families use multiple programs is valuable for future research and program evaluation. There may be opportunities for greater coordination across programs to support children in these households. Additionally, this study highlights the importance for policy and social programs to account for evolving household and family structures in benefits and eligibility formulas.

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## **Panel 4: Factors Affecting Disability and Disability Benefit Receipt**

*Moderator: Katherine Bent, Social Security Administration*

UM22-04 “The Role of Physical, Cognitive, and Interpersonal Occupational Requirements and Working Conditions on Disability and Retirement”

***Italo Lopez-Garcia**, The University of Southern California*

*Kathleen J. Mullen RAND*

*Jeffrey Wenger, RAND*

NB19-29 “Legal Representation in Disability Claims”

*Hilary Hoynes, University of California, Berkeley & NBER*

***Nicole Maestas**, Harvard University & NBER*

*Alexander Strand, Social Security Administration*

WI22-02 “Exploring Worker and Firm Characteristics that Drive Use of Accommodation for Workers with Disabilities”

*Corina Mommaerts, University of Wisconsin–Madison*

*Naoki Aizawa, University of Wisconsin–Madison*

***Stephanie Rennane**, RAND*

***The Role of Mental and Physical Occupational Requirements and the Physical Work  
Environment on Retirement Behaviors.***

Italo Lopez Garcia, University of Southern California

Kathleen J. Mullen, University of Southern California

Jeffrey Wenger, RAND Corporation

24<sup>th</sup> Annual Meeting of the Retirement and Disability Research Consortium

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In this research proposed we provide the most comprehensive examination to date of the role of physical and mental job demands, as well as potentially unpleasant or hazardous working conditions, on heterogeneous transitions into retirement among older individuals in the US. Using data from wave 2 of the Occupational Requirements Survey (ORS), we construct indices of physical and mental occupational requirements, as well as of adverse environmental exposure, and we examine their statistical properties and correlations with other job attributes and individual characteristics. Next, using restricted individual-level data from the Health and Retirement Study (HRS) and the Life History Mail Survey (LHMS), we identify the most important occupation held by the individual in her prime years, and merge our indices of job demands to the HRS panel using 4-digit Census occupation codes. Using HRS data on self-reported status and other individual and household characteristics, we then estimate regression models to explore how occupational requirements and working conditions predict the individual's retirement status and transitions into retirement, controlling for a wide range of individual and household characteristics. Finally, we examine heterogeneous associations between job demands and retirement by gender, age, education, and self-reported health status.

Understanding how occupational requirements and adverse environmental exposure drive retirement decisions is important for projecting the long-run sustainability of the Social Security and SSDI programs and designing policies to encourage individuals of advanced age to work longer. Dramatic changes in life expectancy in the recent decades have increased the proportion of an individual's life spent in retirement. This phenomenon has slowed labor force growth (Maestas, Mullen, and Powell 2016) and presents challenges to the financial sustainability of Social Security and other public programs (Gruber and Wise 2004). Delays in disability and retirement could be encouraged by improving working conditions related to physical workload, job control and psychological job stress, which are increasingly identified as risk factors for disability and retirement (Blekesaune and Solem 2005; Lahelma et al. 2012). More than half of American workers are exposed to unpleasant or potentially dangerous working conditions, which disproportionately affect individuals without a college education (Maestas et al. 2017). The recent rapid expansion of telecommuting during the COVID-19 pandemic, with its attendant effects on sedentary work and cognitive and interpersonal job demands, further underscores the importance of understanding how working conditions affect retirement transitions.

Existing research documenting the role of job demands on retirement decisions has largely relied either on subjective assessments of job demands from household surveys or on merged occupation-level data from the Occupational Information Network (O\*NET), with findings that are mixed and even contradictory. For example, Aaron and Callan (2011) and Angrisani et al. (2013), both using subjective data from the HRS, find conflicting results about the role of physical strain at work on retirement timing. Among studies using objective measures of job demands from O\*NET, McFall et al. (2015) find that subjective measures from HRS are more predictive of transitions to retirement than a selection of O\*NET physical, emotional and cognitive items that are likely to decline with age, while Angrisani, Kapteyn, and Meijer (2016) find the opposite but using more heterogeneous indices including a the full set of O\*NET items. Physical job strains and low autonomy or job control have been found to be important risk factors of disability retirement in Scandinavian countries (Blekesaune and Solem 2005; Lahelma et al. 2012).

### **The Data**

We use three data sources for this research. The first is the Health and Retirement Study (HRS), a longitudinal household survey representing the non-institutionalized U.S. population over the age of 50. Respondents are surveyed every two years, allowing us to track transitions from work into retirement and disability status. We use the RAND version of HRS, version P, with restricted version access to gather occupational information at the 4-digit Census code level. The HRS core questionnaire provides information about individual demographics, labor force status, financial situation, health status, and household composition. We use the HRS variable on self-reported labor force status to identify whether an individual is retired or not in a given year, and whether the individual transitioned from working full- or part-time on a given period to gull retirement in the next period. Our final HRS sample consists of all individuals aged 51-70 in 2004 (wave 7) who were followed across waves 7-12 (N= 6,982 respondents).

Second, we use the Life History Mail Survey (LHMS), a survey on HRS respondents who were in the sample of the 2016 wave which includes detailed information on occupational history. While the HRS includes information on the individual's occupations held after age 51, later-life jobs might not reflect the cumulative exposure to occupational requirements during the prime years, which are more likely to explain later life labor outcomes. The LHMS provides asks respondents to report the most important occupation held between the ages 30 to 40, as well as a

list of the 10 most important jobs held until the age of 50, which allow us to identify the individual's most important occupation held during the prime years.

Lastly, we use the Occupational Requirements Survey (ORS), collected by the Bureau of Labor Statistics on behalf of SSA. The ORS employs field economists to collect information on jobs requirements from establishments. The first wave of ORS, collected over a three-year period between 2015 and 2018, supplies information on the physical demands and environmental conditions, and vocational preparation that are required in each job. The second wave, planned for collection over five years September 2018-July 2023, includes the same information and adds new information on cognitive and mental job requirements such as job autonomy and flexibility, social skills, and cognitive demands. For this research, we use preliminary second wave data through July 2021, and we use two types of variables: a) the percentage of workers in each occupation who are subject to a given requirement (e.g., the percentage of workers in an occupation for which gross manipulation is required); and b) the (standardized) average hours required in typical working day (e.g., sitting or standing).

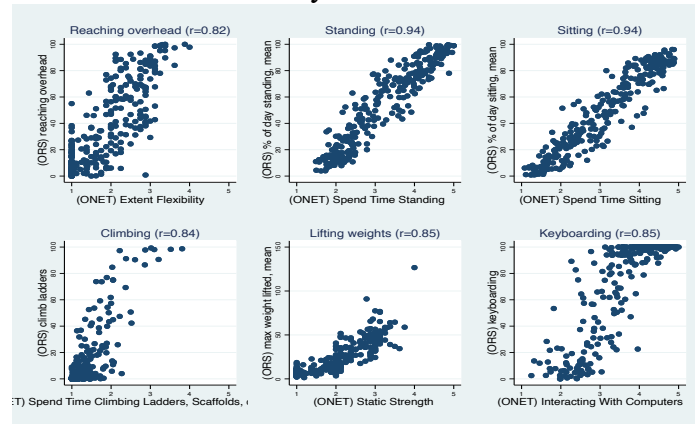
For our empirical analysis, we attempt to merge ORS data to the HRS panel using the most important occupation (at 4-digit level Census occupation code) identified for each respondent. This procedure, however, has its own limitations. We find that only 64% of our sample of HRS respondents have any job history data in the LHMS, and 51% answered the question about the most important job held between ages 30-40. To overcome this problem, we combine LHMS and HRS data on occupations adopting the following three-step strategy: a) assign the most important occupation held during prime years if available in the LHMS (51% of HRS respondents); b) if information in a) is missing, assign the occupation with the longest tenure between ages 25 and 50 (7.2%); and c) assign the occupation observed in the HRS panel at the entering wave if there is no available job history in the LHMS (42% of HRS sample).

## **Results**

Our first finding relates to the analysis of the validity of the ORS measures. Even though the ORS and O\*NET are designed for different purposes, we find a high degree of consistency across the two databases for similar measures. Figure 1 illustrates the relationship between the average O\*NET importance rating on a scale of 1 to 5 and the corresponding ORS measure of the percentage of workers subject to a given occupational requirement for each occupation, for several physical work activities (e.g., reaching, climbing, low postures). We calculate

correlations across occupations at or above 0.8. We find similarly large correlations across the two databases for hazardous environmental conditions and for mental requirements such as working with public and job autonomy. However, correlations for other mental requirements such as working around crowds, being supervised were low.

Figure 1: Concurrent validity between ORS and O\*NET databases



We next move to the construction of our indices of occupational requirements. Based on our comparison between the ORS and O\*NET job requirements we drop from the analysis ORS measures that exhibit little variation and poor concurrent validity with O\*NET, including hearing, near vision, and standing/walking. In addition, we exclude four mental requirements related to cognitive domains (communicating verbally, work reviewed by supervisor, problem solving and work pace) because they are available for a very limited number of occupations. What remained were 11 physical activity requirements, 10 measures of the physical work environment, and 7 mental requirements. We then constructed weighted average indices of job demands across occupations, where the weight was the occupation’s share of jobs in the national economy obtained from the Current Population Survey (CPS). The “physical activity” index included the 11 physical activities retained from the previous analyses. The “physical environment” index included all 10 environmental conditions. The “job autonomy/flexibility” index included 4 mental requirements, and the “supervised/work with public” index included the other 3 mental requirements (Figure 2). We standardized all indices after having merged to the full HRS sample for ease of interpretation of our results.

We then proceed to merge our indices of job demands to the HRS panel to examine the role of job demands on retirement outcomes. Table 1 presents our results from linear probability models regressing two types of retirement outcomes: an indicator variable taking value 1 if the

Figure 2: Indices of Occupational Requirements

(1) Physical Activities		(2) Physical Environment		Mental Requirements	
	Obs		Obs		Obs
1	Standing	1	Extreme cold	<b>(3) Job Autonomy/Flexibility</b>	
2	Weightlifting	2	Extreme heat	1	Supervision
3	Strength	3	Hazardous contaminants	2	Telework
4	Climb ladder	4	Heavy vibrations	3	Pause Work
5	Low postures	5	High, exposed places	4	Self-paced
6	Driving	6	Humidity	<b>(4) Supervised/Work w Public</b>	
7	Foot/leg control	7	Outdoors	5	General public
8	Push/pull	8	Wetness	6	Crowd
9	Reaching	9	Proximity to moving parts	7	Supervision
10	Fine motor	10	Noise intensity level		
11	Gross motor				

individual reports to retired at time  $t$  (Column 1), or and an indicator variable that takes value 1 if a working individual in period  $t$  reports to be retired in time  $t+1$  (Column 2), on our four indices, as well as on covariates. Since our indices of job demands are standardized within sample, we find that a 1 SD increase in our physical activity index is associated with a 10 pp increase in the probability of being retired, and a 5 pp increase in the probability of transitioning into retirement, with the physical environment index showing similar associations. In turn, 1 SD increase in our job autonomy/flexibility index is associated with a 22 pp decrease in the probability of being retired, and a 12 pp decrease in the probability of transitioning into retirement, with the supervised/work with public index showing similar associations but in opposite directions, which suggests this index captures low autonomy and low flexibility job traits.

Lastly, we find significant heterogeneity in how job demands affect retirement: even though all workers in physically demanding and hazardous jobs tend to retire earlier, males, low-educated and workers with poor health retire even earlier than their counterparts. In turn, while all workers in occupations characterized by high job autonomy and flexibility tend to delay retirement, this effect is but much more pronounced among college-educated workers.

Table 1: Associations between job demands and retirement outcomes

	Individual is Retired	Retirement Transition
Physical Activity Index	0.102*** (0.018)	0.050*** (0.009)
Physical Environment Index	0.133*** (0.024)	0.062*** (0.012)
Job Autonomy/ Flexibility Index	-0.221*** (0.016)	-0.116*** (0.007)
Supervised/Work with Public Index	0.217*** (0.013)	0.111*** (0.008)
Individual-Year observations	37,112	16,781
Individual observations	6,671	3,958

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## **Legal Representation in Disability Claims**

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24<sup>th</sup> Annual Meeting of the Retirement and Disability Research Consortium

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The U.S. social safety net provides protection against involuntary job loss, poverty in childhood and old age, sickness, and the loss of the ability to work.<sup>1</sup> These programs consist of complicated and detailed sets of eligibility criteria and lengthy application processes (Herd and Moynihan 2018). This raises concerns about low program take-up rates (Currie 2006) and that the people who need assistance the most are the least able to navigate the system (e.g., Shafir and Mullainathan 2013, Bhargava and Manoli 2015, Deshpande and Li 2019).

In this paper, we examine the high-stakes area of Social Security Disability Insurance (SSDI), where former workers must prove they are no longer able to work because of a long-lasting, medically determinable disability. If they succeed, they are awarded monthly income support and Medicare benefits for their remaining lifetime.<sup>2</sup> SSDI provides annual benefits totaling \$128 billion to 7.9 million former workers and their dependents. The SSDI program is unique in the U.S. social safety net in that legal representatives play a prominent role in the application process and are paid for their services directly by the Social Security Administration (SSA). We examine the effects of representatives on case outcomes and targeting – that is who does and does not receive benefits.

Legal representatives are ubiquitous in SSDI cases at the appellate level,<sup>3</sup> most likely because appellate cases are argued before an administrative law judge (ALJ).<sup>4</sup> Representation is much less common at the initial review stage, where cases are decided by disability examiners in state agencies and do not involve a judicial hearing. But surprisingly, representation rates among initial applications rose by 40 percent between 2009 and 2011 (Social Security Advisory Board (SSAB) 2012) and have continued to rise. This development has raised concerns about the financial motives of large disability law firms, which earn standardized fees on a contingency basis—that is, if the case is won and if the applicant is awarded retroactive benefits (“backpay”). Fees paid to legal representatives in SSDI cases nearly tripled between 2001 and 2010 (from \$585 million to \$1.66 billion in 2019 dollars) as shown in Figure 1. Fees subsequently fell

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<sup>1</sup> Programs include Unemployment Insurance, Workers’ Compensation, Social Security Old Age and Survivors Insurance, Supplemental Security Income, Supplemental Nutrition Assistance Program, Temporary Assistance for Needy Families, Medicaid and Medicare, and Social Security Disability Insurance.

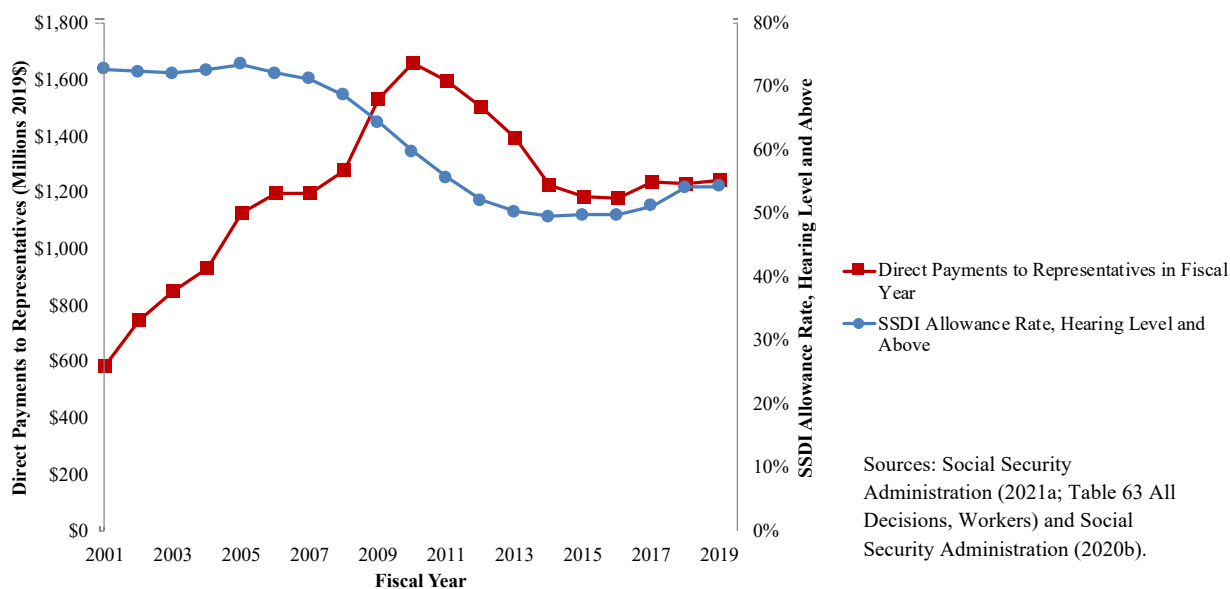
<sup>2</sup> When SSDI beneficiaries reach full retirement age (FRA), their cash benefits convert to OASI retirement benefits, but continue at the SSDI rate – that is, without actuarial reduction for early claiming prior to FRA.

<sup>3</sup> We calculate that 82 percent of appellate claimants used a representative between 2007 and 2014.

<sup>4</sup> In this study, we use the term “appellate level” to refer to a hearing before an ALJ. Other appellate levels that we do not consider include reconsideration (which occurs before the ALJ hearing level in states that perform reconsideration), and review by the Appeals Council or appeal to Federal Court (both of which follow a denial at the ALJ hearing level). Only a small number of cases proceed beyond the ALJ level (Social Security Administration, 2018).

between 2010 and 2015 and then stabilized at around \$1.2 billion. Figure 1 also shows that the drop in fee payments followed a sharp decline in the appellate hearing allowance rate—from 69 percent in 2008 to 51 percent in 2017. This program tightening resulted from SSA initiatives to improve decision consistency and policy compliance at the appellate level (Ray and Lubbers 2015). Since representatives are compensated only if they win, the decline in the hearing allowance rate resulted in substantial lost compensation for representatives, contributing to the bankruptcy of the largest for-profit disability law firm at the time (Schwartz 2018).

**Figure 1. Direct Payments to Representatives and Appellate Allowance Rates, by Year**



The increase in representation at the initial level since 2009 follows the retrenchment at the appellate level. This suggests some disability law firms may have sought a new market—initial disability claims—in order to recoup losses in the market for appellate representation. This connection between the decline in profitability of the appellate market and the rise of representation in initial claims motivates our study design.

In this paper, we provide the first estimates of the causal effects of legal representation in the SSDI application process. Using newly assembled administrative data from SSA, we estimate the effects of representation at the *initial application stage* on the full life cycle of the application, examining effects on initial allowance, appeal, final allowance, and length of time until final decision. Since representation is not randomly assigned to disability claimants, to isolate the causal effect of early legal representation on initial and subsequent SSDI case

outcomes, we develop novel instrumental variables using geographic and temporal variation in law firm market shares in the *appellate market*. Firms with greater appellate market shares were more exposed to financial losses from the tightening at the hearing level and thus had stronger motives to represent initial claims. Legal representation by disability law firms in appellate cases varies considerably by geographic area and across years, and initial claimants are more (less) likely to enlist legal representation from a disability law firm if they live in an area with a high (low) degree of disability firm penetration in the appellate market in the month preceding their application. Importantly, there is no overlap between the appellate cases we use to construct the market-share instruments and the initial claims that are the focus of our analysis (since the appellate cases were decided before the initial claims were filed). Furthermore, the appellate market-share instruments are unlikely to affect outcomes for the initial claims in our analysis through a channel other than initial representation. Our research design identifies the local average treatment effect (LATE) of representation on application outcomes. We provide evidence establishing the strength of the first stage, monotonicity of the instruments, and exogeneity of the instruments. We also characterize the distribution of compliers and their characteristics. Together, this shows that conditions for validity of the multiple IV approach and interpretation of the LATE are satisfied.

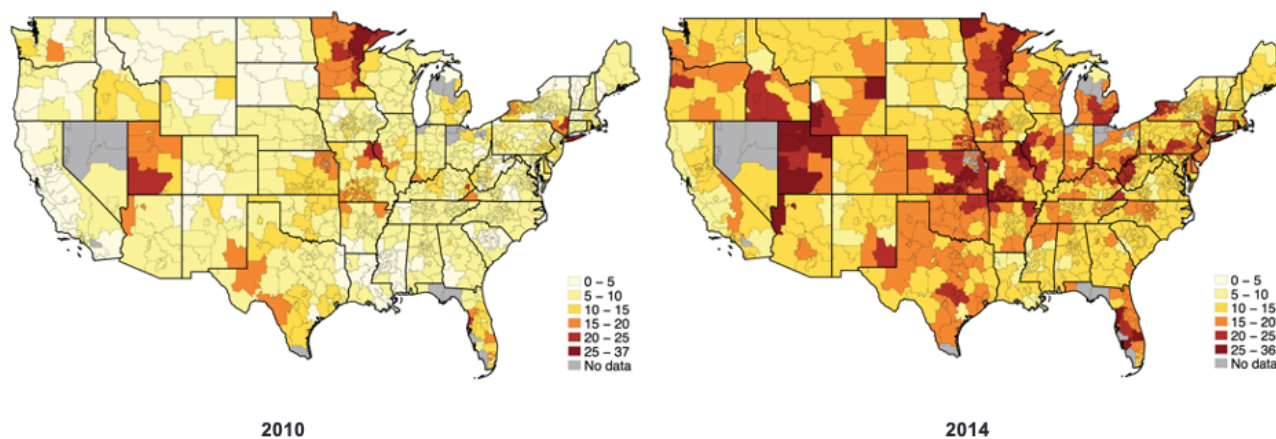
Little is known about the impact of legal representation on disability cases. In other civil settings, legal representation has been shown to improve outcomes for indigent clients and gains in efficiency for the courts (Currie and Cassidy 2022; Seron et al. 2001; Eagly and Shafer 2015, Greiner et al. 2013). In the disability setting, a representative might increase the claimant's odds of award by helping them understand complex rules and documentation requirements, by connecting medical evidence to specific regulatory criteria, or by obtaining supporting evidence in a timely fashion. Representation might also reduce the amount of time it takes to obtain a disability award. Nearly half of SSDI beneficiaries received their award on appeal, having been denied once or twice by their state agency and waiting an average of two years for an appellate hearing (in our sample). If the "right" decision could be reached during the initial review, those with qualifying claims would receive benefits in a matter of months and the rest might be deterred from a lengthy appeal and prolonged period of work inactivity. The reduction in appellate workload could generate substantial federal cost savings.

On the other hand, the contingent-fee payment structure has prompted concerns about incentives and allegations that certain representatives intentionally slow down cases, increasing

the total time until the final decision (SSAB 2012). In addition, journalistic and Congressional investigations have exposed fraudulent behavior by particular disability attorneys (e.g., Paletta 2011). More generally, large disability law firms have been accused of aggressive marketing practices and of placing their financial interests ahead of the claimant’s interests (SSAB 2012). Most of the media attention has been focused on the appellate process.

Our analysis yields several key findings. First, we document that the rate of representation in initial disability claims nearly doubled in 2010-2014, rising from 8 to 15 percent nationally, and exhibiting wide geographic variation; as shown in Figure 2, in some areas of the country, initial representation rates rose to as high as 25 percent. Second, disability representatives are highly selective about the cases they accept. While not surprising given the contingency-fee structure, case selection generates large biases (away from finding any positive effect of representation) in observational estimates.

**Figure 2. Representation Rate (%) at Initial Level by 3-Digit Zip Code, 2010 and 2014**



Third, our IV estimates reveal that legal representation increases the probability of disability award at the initial level of review by 23 percentage points, relative to a mean of 32 percent. Nearly all of the award effect is due to awards for automatically-qualifying medical conditions, and not for awards made on the basis of vocational criteria such as age, education, experience and skills.<sup>5</sup> Strikingly, initial representation results in no increase in the probability of final award (accounting for any appeals), implying that while representation does not increase

<sup>5</sup> For a description of the 5-step determination process, see Wixon & Strand (2013).

the total number of disability awards, representatives obtain earlier awards for claimants who would otherwise wait to be allowed on appeal.

Additionally, the IV results show that initial representation reduces the probability of appeal to the hearing level by 45 percentage points. Our theoretical model suggests this is the combined effect of the negative signal about a claimant's prospects (from the initial denial) and sunk costs that reduce the representative's expected net payoff from continuing the case. Overall, by securing earlier awards and discouraging appeals, initial representation reduces total case processing time by 316 days—nearly one year. This large effect suggests initial representation improves administrative efficiency, an important finding in light of persistent case processing backlogs at the appellate level. Although it is alleged that representatives delay cases to maximize their fee payment, we find evidence of delays only for cases that are decided rapidly and these delays are offset by significantly shorter processing times for cases that are decided slowly. On balance, there is no increase in processing time at either the field office or the DDS. Notably, we find representatives obtain approval for more distant disability onset dates, which increases the claimant's back pay (and thus the representative's fee payment) *without adding processing time*.

Lastly, our investigation of the mechanisms by which representatives improve case outcomes reveals that representatives are effective at obtaining decisive, early decisions for claimants with mental impairments, in large part by demonstrating that their clients' conditions are automatically qualifying under SSA's *Listing of Impairments*. In contrast, there is little benefit to representation for claimants with back pain (which rarely meets the listings), and some benefit for claimants with other musculoskeletal conditions that meet the listings. In addition, representatives file claims electronically at greater rates, creating further administrative efficiencies. Using estimates of the cost of administering the initial and appeals processes, we find that the 2014 representation rate of 15 percent generated a 13 percent reduction in SSDI processing costs compared to the counterfactual of no initial claims representation. Our estimates also imply that applicants at the margin of initial representation would be willing to pay far more for representation than the current statutory fee structure currently permits. The current contingency-fee structure with low fee cap incentivizes representatives to select only low-cost cases and to minimize effort, leading to underprovision of representation. If future policy changes encouraged more representation at the initial level, our results indicate that there would be large efficiency gains for applicants at the margin, for representatives and for SSA.

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**Exploring Worker and Firm Characteristics that Drive Use of Accommodation for  
Workers with Disabilities**

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## **Introduction**

Returning to work after disability is a decision that workers make based on their ability to perform their job as well as economic and institutional factors. A worker's choice may also depend on available accommodations. However, recent evidence suggests that nearly half of workers who would benefit from accommodation do not receive it (Maestas et al. 2019). Employee personality traits may play an important role in determining which individuals seek accommodation (Hill et al. 2016). Less is known about how accommodation provision varies with other characteristics of workers or firms, and the extent to which differences in worker or firm characteristics explain disparities in accommodation rates for workers with disabilities.

This paper provides new evidence to address these open questions. We examine three return to work accommodation programs in Oregon workers' compensation system. An examination of return to work programs in workers' compensation can offer insights for broader policy related to disability and accommodation. A significant share of workers with workplace disabilities do not return to the labor market after the onset of their impairment. Even workers with temporary or less severe impairments suffer earnings losses for several years after a disabling event (Dworsky et al. 2022). Return to work programs through workers' compensation offer accommodation typically within the first few months or years following disability onset. This early intervention may prevent a health condition from worsening and allow a worker to maintain strong connections to the labor market despite his or her impairment or work restrictions. Return to work programs are relatively uncommon: 13 states offer a partial return to work program, and among them, 11 states offer programs with incentives to employers (Ashley et al. 2017). As a result, our research setting offers a unique opportunity to examine the factors of both workers and firms that may drive accommodation use.

## **Background**

In Oregon, as in 47 other states and D.C., employers must have workers' compensation insurance to cover medical costs and indemnity (timeloss) benefits for employees who experience injury or illness as a result of their work. Employers must either purchase insurance from a third party or self-insure. Workers' compensation insurance is experience rated, providing an incentive for employers to increase safety on the job and reduce the incidence and severity of injury on the job. Because experience rating accounts for the incidence and the overall cost of the injury, experience rating costs are lower when workers return to work more quickly.

Oregon offers three return to work programs to accommodate injured workers. The Employer at Injury Program (EAIP) incentivizes firms to offer transitional work opportunities for injured workers who have work limitations, but with the appropriate accommodations or adjustments to their work, may be able to return to work while they continue to recover. Only employers at injury are eligible for EAIP incentives. In return, the employer may receive a 45-50% wage subsidy during the transitional work period, or reimbursement for costs of worksite modification, equipment, or retraining and skill development. Workers must have an open claim when they are accommodated and cannot receive timeloss benefits at the same time.

The Preferred Worker Program (PWP) offers similar – but larger -- wage subsidies and reimbursement to employers who hire workers with permanent disabilities from a prior workplace event. Employers who participate in PWP may also receive credits that lower their workers' compensation premiums.<sup>1</sup> Finally, workers' compensation insurers also offer vocational rehabilitation assistance (VR) to injured workers.

## **Data and Methods**

Our main data source is administrative workers' compensation claims from Oregon, provided by the Oregon Department of Business and Consumer Services, Workers' Compensation Division. The claims data include detailed information including the key dates, benefit expenditures, worker demographics, injury characteristics, and use of the accommodation programs. We also link the 2021 Occupational Requirements Survey (ORS). The ORS includes data describing physical and cognitive tasks, environmental conditions, and education and training prerequisites for a wide swath of jobs in the economy. We link 89 job-related tasks for occupations in our dataset using six-digit Standard Occupational Classification (SOC) codes. In order to explore firm-specific effects, we restrict the sample to claims within firms that have at least two claims during our sample period. This results in a sample size of 242,858 claims between 2005-2017. Approximately 25 percent of disabling claims have some costs reimbursed via EAIP. By contrast, only 1-2 percent of claims have any PWP or vocational assistance costs.

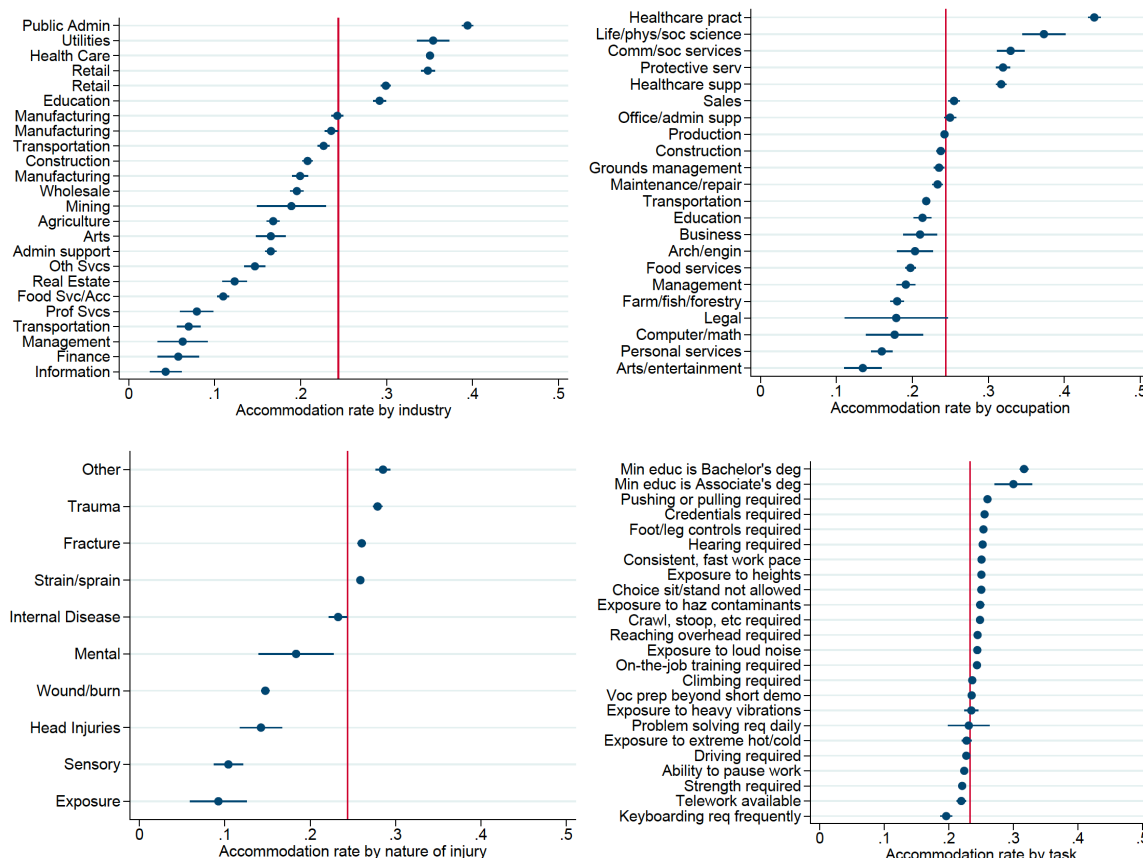
Figure 1 shows average EAIP use by industry, nature of injury, occupation, and job task. Accommodation rates vary from 4 percent of claims for workers in the information industry to 39 percent of claims for workers in public administration, from 13 percent in arts and

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<sup>1</sup> See <https://wcd.oregon.gov/rtw/Pages/eaip.aspx> for more details about the EAIP and <https://wcd.oregon.gov/rtw/Pages/pwp.aspx> for more details about PWP.

entertainment occupations to 44 percent in health care occupations and from 9 percent for exposure injuries to 28 percent for trauma injuries. Interestingly there is less variation by task.<sup>2</sup> There is less variation in use of PWP and VR by industry and occupation, though there remains substantial variation in use of these programs across injury type (see full paper for figures).

Figure 1: Average EAIP accommodation rate by industry, occupation, nature of injury, and task



Notes: Data provided by Oregon Department of Business and Consumer Services, 2005-2017. Sample includes disabling claims in Oregon with at least two claims within a firm.

## Variance Decomposition and Results

We conduct two decompositions to understand the factors driving use of accommodation in each of these programs. As described in Aizawa et al. (2022), we regress an indicator for participation in each program on worker, injury, and time-varying firm characteristics; firm and quarter fixed effects; and county of the firm establishment.<sup>3</sup> We use the estimates to statistically

<sup>2</sup> We define workers as having a particular task requirement if over a third of workers in the particular occupation must abide by the task requirement.

<sup>3</sup> Unlike in other decompositions similar to Abowd et al. (1999), we do not include worker fixed effects because

decompose the amount of variation in accommodation rates resulting from each of these characteristics, following Taber and Vejlin (2020). Table 1 shows the results.

Table 1: Percent of Variance in Use of Accommodation Programs Explained by Characteristics

	EAIP	PWP	VR
Quarter/county FE	0.6%	0.2%	0.2%
Worker characteristics	0.8%	0.1%	0.3%
Injury characteristics	3.0%	5.0%	17.2%
Firm characteristics	4.7%	0.2%	-0.1%
Firm fixed effects	24.6%	10.5%	9.9%
Job tasks	0.2%	0.1%	0.0%
Residual	66.2%	83.9%	72.6%

Notes: Data provided by Oregon Department of Business and Consumer Services, 2005-2017. Sample includes disabling claims in Oregon with at least two claims within a firm.

Worker characteristics explain less than 1% of the variance in accommodation through EAIP. Injury and firm characteristics explain approximately 3% and 5%, respectively. However, firm fixed effects explain nearly 25% of the variance in accommodation.<sup>4</sup> Put another way, these results suggest that small parts of these decisions are based on the characteristics of the worker, injury and firm, but much of the variation is based on cross-firm differences. Worker or firm characteristics or job tasks explain virtually none of the variance in PWP or VR use. About 5% of the variation is explained by injury characteristics and 10% is explained by firm fixed effects. Injury characteristics and firm fixed effects are also the strongest factors in the variance in use of VR, accounting for 17% and 10% of the variation respectively.<sup>5</sup>

We also conduct a series of Oaxaca Blinder decompositions to understand how accommodation rates vary between two groups of workers. Table 2 shows the results decomposing use of these programs by insurance type. EAIP use is 16 percentage points higher in self-insured firms than other firms. 11 percentage points of this difference is due to differences in the characteristics of self-insured claims, while 5 percentage points is due to differences in

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multiple injuries by the same individual are relatively rare.

<sup>4</sup> Although we include firm characteristics like firm size or insurance status, the firm fixed effect may also include the effect of some of these characteristics if they do not vary over time or across claims

<sup>5</sup> Other specifications including occupation-industry or occupation-injury fixed effects show similar results.

how those characteristics affect accommodation rates.

Table 2: Oaxaca-Blinder Decomposition of Accommodation Rates by Insurance Type

	EAIP	PWP	VR
Mean- Third Party Insured	0.1996	0.0138	0.0200
Mean - Self-Insured	0.3651	0.0089	0.0155
Difference	-0.1654	0.0048	0.0045
Difference due to characteristics	-0.1119	0.0030	0.0043
Difference due to coefficients	-0.0544	0.0021	0.0012
Interaction	0.0009	-0.0004	-0.0009

Notes: Data provided by Oregon Department of Business and Consumer Services, 2005-2017. Sample includes disabling claims in Oregon with at least two claims within a firm.

PWP and VR use is approximately half a percentage point lower in self-insured firms compared to other firms – a small absolute difference, but large compared to the absolute share of claims using these programs. Again, the majority of the difference results from characteristics, rather than differences in the relationship between characteristics and accommodation. Other decompositions (in the full paper) reveal that women and workers over age 40 are more likely to be accommodated through EAIP, but men are more likely to use PWP or VR. Muscle strains and sprains are less likely to be accommodated through any of the three programs than other injuries.

### **Conclusion**

Our findings show that firm-side factors are important determinants of accommodation, particularly through EAIP, which most directly affects the incentives of the employer at injury. This has several broader policy implications. The importance of the firm raises the potential for inequity if otherwise similar workers are equally in need of accommodation but have different outcomes simply due to the firm where they work. Understanding the importance of the firm in also offers an opportunity to correct these inequities through targeted incentives to firms, or by reducing other firm-specific barriers to providing accommodation. We also find that a significant portion of the variation in accommodation remains unexplained. We conjecture that this residual reflects a match-specific component of accommodation. Other work suggests that factors such as workplace culture and firms investments in their workers may be central to take-up of other workplace and work-related public insurance benefits (e.g., Bana et al. 2022, Goldin et al. 2020).

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## **Panel 5: Factors Driving Trends in Health and Disability**

*Moderator: Courtney Coile, Wellesley College*

BC22-18 “How Has the Evolving Nature of Work Affected Health and Disability?”

*Stipica Mudrazija, Urban Institute*

*Barbara Butrica, Urban Institute*

BC22-17 “How Will COVID Affect the Mortality of Older Adults?”

*Gal Wettstein, Boston College*

*Anqi Chen, Boston College*

*Alicia Munnell, Boston College*

NB22-05 “How Do Increases in Earned and Unearned Income Affect Health? Evidence from Native American Tribal Casinos”

*Randall Akee, University of California, Los Angeles & NBER*

*Emilia Simeonova, Johns Hopkins University & NBER*

*Sonya Porter, United States Census Bureau*

## **Health, Disability, and the Evolving Nature of Work**

Barbara A. Butrica, Urban Institute

Stipica Mudrazija, Urban Institute

24<sup>th</sup> Annual Meeting of the Retirement and Disability Research Consortium

August 4<sup>th</sup> & 5<sup>th</sup>, 2022

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## **Introduction**

The nature of work has changed dramatically as automation and technology, and their effects on job tasks, have increased. Notably, the share of physically demanding jobs has declined (Johnson and Karamcheva 2017; Johnson, Mermin, and Resseger 2011; Stapleton, Goodman, and Houtenville 2003). These trends have implications for all workers, but especially for those with health and disability issues. Certain health issues that previously limited mobility, for example, may no longer prevent workers from successfully performing their usual job tasks. Indeed, recent research suggests that the share of workers with a health limitation that would prevent them from performing at least one essential requirement for their job has declined in recent decades (Rutledge, Zulkarnain, and King 2019). Evolving job demands may have widened the range of jobs available to American workers over the last two decades, albeit only for those with at least some college education (Lopez Garcia, Maestas, and Mullen 2020).

This paper explores whether the evolving nature of work has impacted the relationship between health and work-related disability and disability applications through its impact on job demands. We document trends in the association of health and functioning with the risk of experiencing a work-limiting health event and applying for or receiving disability benefits, and assess whether the changing composition of jobs and job demands impacts the strength of the relationship.

## **Data and Methods**

The data for this analysis starts with the restricted-access Health and Retirement Study (HRS), which provides detailed occupation codes that we use to merge information from the Department of Labor's Occupational Requirement Survey (ORS) and Occupational Information Network (O\*NET) to describe the job requirements of HRS respondents' current and previous jobs.

The ORS is a nationally representative survey of establishments that collects information on the attributes of a full range of jobs in the U.S. economy. We code each ORS job attribute as one if at least 25 percent of jobs in an occupation possess this attribute, and zero otherwise. We then create indices of job demands that summarize information on select job attributes from each ORS category of job requirements: 1) job flexibility, a subset of cognitive and mental requirements that capture job characteristics such as work pace or ability to telework, 2) education, training, and experience, 3) environmental conditions (i.e., various hazards at or in proximity to where the job is being performed), and 4) physical requirements. Our summary

measures are the sum of the ORS job attributes within each of the four categories of ORS job requirements.

The O\*NET is another database of job demands—including requirements (such as skills, abilities, and work styles) and how the work is performed (e.g., activities and work contexts). O\*NET rates each job attribute from one to five, where one indicates that a job attribute is “not important” to performing the job and five indicates that a job attribute is “extremely important.” We create four dichotomous summary measures of select job attributes closely following the typology used by Johnson, Mermin, and Resseger (2011) and Johnson and Karamcheva (2017). Our summary measures equal one if any of their job attributes has an O\*NET rating of four or more, and zero otherwise. Our summary measures describe a job’s physical demands, cognitive demands, difficult conditions, and stressful conditions.

Our analysis pools data from the 1998 through 2016 HRS waves. We focus on respondents ages 55 to 61. We exclude those who missed a full interview in any wave, had zero weights, or had missing detailed occupation codes, work limitations, disability, or DI information. We include those currently working and those who ever worked. This leaves 12,500 respondents representing 26,621 person-years in the ORS analyses, and 13,706 respondents representing 30,010 person-years in the O\*NET analyses.

We fit a bivariate probit model, which allows us to estimate two dichotomous processes that are related to one another (Nichols 2011; Greene 2012). The first one is a work-limiting health condition (i.e., whether the respondent reports being disabled or that health limits the kind or amount of paid work) and the second one is DI (i.e., whether the respondent applied for or receives DI benefits). We also estimate a recursive bivariate probit that includes a work-limiting health condition as a predictor in the DI equation to reflect the idea that a self-reported work limitation is likely to be strongly related with the decision to apply for disability benefits. Our models also control for various demographic, socioeconomic, and health characteristics of respondents. Additionally, several of our analyses distinguish the period following the Great Recession (i.e., survey wave 2010 and later) from the period preceding it.

## **Results**

Figure 1 using the ORS and Figure 2 using the O\*NET show that older adults who applied for or receive DI benefits are most likely to work in jobs that have physical demands, hazardous environmental conditions, and difficult work conditions, and they are least likely to work in jobs

Figure 1. ORS job requirements by work limitation and DI application status

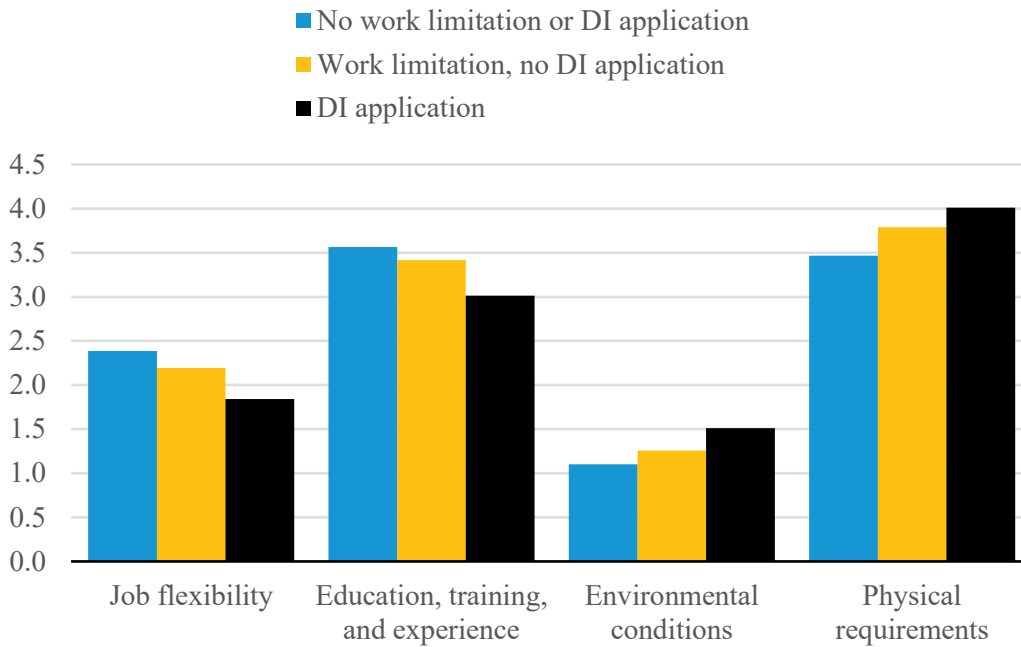
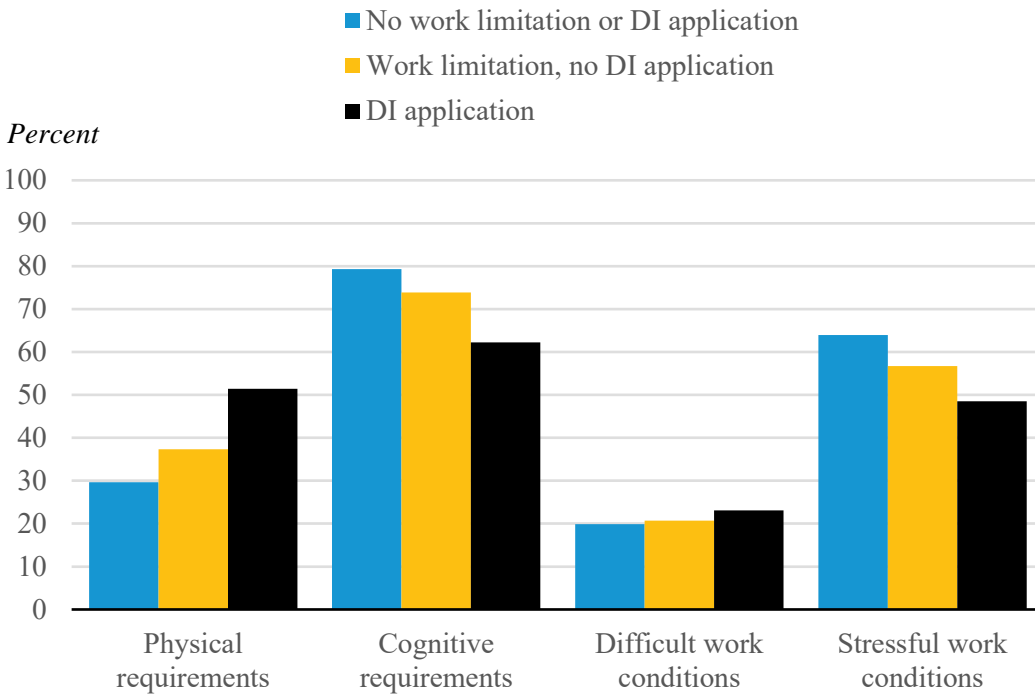


Figure 2. Percentage of older workers in jobs with specified O\*NET demands, by work limitation and DI application status



that have workplace flexibility, cognitive demands, and high educational requirements. Conversely, older adults without work-related limitations who neither applied for nor receive DI benefits work in jobs that require the highest average level of education and offer the most workplace flexibility as well as least hazardous and physically challenging work conditions.

The results of our ORS bivariate probit models in table 1 suggest that job flexibility is negatively and physical requirements are positively related with reporting work-limiting health conditions and DI applications/receipt, whereas environmental conditions are not significantly related with either of the two outcomes of interest. Stratifying the model by pre- and post-Great Recession periods suggests, however, that the magnitude of the association of job flexibility and physical requirements indices with the outcomes of interest might be stronger and the significance higher in the period following the Great Recession. The results of our O\*NET bivariate probit models in table 2 also show that physically demanding jobs are positively associated with work limitation and with DI applications. While we also find that jobs with cognitive demands are negatively associated with DI applications, their association with work limitations is statistically insignificant. Difficult work conditions and stressful work conditions do not reach statistical significance for either work limitations or DI applications/benefits. Similar to the ORS results, we find that the relationship between physical and cognitive job demands and DI applications is stronger after the Great Recession. Finally, the results of the recursive bivariate probit models mostly remain consistent.

## **Conclusions**

Our preliminary findings suggest that Americans are increasingly working in jobs that require more cognitive demands and education, experience, and training, but also offer more workplace flexibility, whereas environmental conditions and especially physical requirements are arguably becoming less challenging on average. Simultaneously, those applying for and/or receiving DI benefits come from an increasingly select group of workers facing worsening job conditions and increasing work requirements. Model results confirm the notion that job requirements, in particular as they relate to cognitive demands, work flexibility, and physical demands, are important determinants of DI applications even accounting for personal health, demographic, and socioeconomic characteristics, and tentatively suggest that this relationship may have strengthened over time.

Table 1. Bivariate probit results for the ORS-based analysis

	All		Pre-Great Recession		Post-Great Recession	
	Work limitation	DI application	Work limitation	DI application	Work limitation	DI application
Job flexibility	-0.026*	-0.067***	-0.019	-0.041+	-0.032+	-0.094***
Environmental conditions	-0.004	-0.012	0.001	-0.011	-0.009	-0.014
Physical requirements	0.014*	0.019*	0.006	0.007	0.022*	0.032*
Constant	-2.121***	-5.061***	-0.938+	-4.634***	-3.071***	-4.516***
N	26,621		14,361		12,260	

Table 2. Bivariate probit results for the O\*NET-based analysis

	All		Pre-Great Recession		Post-Great Recession	
	Work limitation	DI application	Work limitation	DI application	Work limitation	DI application
Physical requirements	0.057*	0.072*	0.007	0.005	0.109**	0.149**
Cognitive requirements	-0.015	-0.118***	-0.024	-0.105*	-0.006	-0.137**
Difficult work conditions	-0.030	-0.008	0.007	0.048	-0.069	-0.072
Stressful work conditions	-0.041	-0.046	-0.014	-0.041	-0.068	-0.040
Constant	-2.072***	-5.051***	-0.916*	-4.573***	-2.974***	-4.613***
N	28,316		15,172		13,144	

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## **How Will COVID-19 Affect the Mortality of Older Adults?**

Gal Wettstein, Nilufer Gok, Anqi Chen, and Alicia H. Munnell, Boston College

24<sup>th</sup> Annual Meeting of the Retirement and Disability Research Consortium

August 4 & 5, 2022

The research reported herein was pursuant to a grant from the U.S. Social Security Administration (SSA), funded as part of the Retirement and Disability Research Consortium. The findings and conclusions expressed are solely those of the authors and do not represent the views of SSA, any agency of the federal government, or Boston College. The authors would like to thank Stephen C. Goss and Karen Glenn of the U.S. Social Security Administration for invaluable advice.



## **Introduction**

The COVID-19 pandemic has claimed over a million American lives, with half of that toll occurring from March 2020 to March 2021. The burden was particularly heavy among older adults, racial and ethnic minorities, and those with underlying health conditions (Dyer 2020; Alsan, Chandra, and Simon 2021; Ruhm 2021). These groups are known to have higher mortality rates than others even in the absence of COVID, potentially limiting the years of life lost to the pandemic. What has not been as thoroughly explored is the implication of this selection effect for the mortality rates of those who survived the pandemic. This paper estimates how much lower the overall mortality rate will be for those who lived through the acute phase of the early pandemic after accounting for the selection effect of those who died from COVID. Such selection may have implications for life insurance and annuity premiums, as well as assessments of the financial standing of Social Security – if the selection is large enough to substantially alter projected survivor mortality.

The rest of the discussion proceeds as follows. The next section provides the background for the analysis. The third section describes the data and methodology. The fourth section presents the results. The final section concludes that COVID victims were very concentrated in otherwise high-mortality populations; however, the scale of COVID deaths was such that this selection leads to only modest reductions in projected future mortality.

## **Background**

While many Americans have died of COVID, these deaths were not random. Some groups of people were more likely to be exposed to the virus, and some groups, conditional on exposure, more likely to suffer severe consequences. In particular, Black and Hispanic individuals were more likely to come in contact with COVID in the early months of the pandemic (Hooper, Nápoles, and Pérez-Stable 2020; Sarkar et al. 2021). Meanwhile, for those contracting COVID, the disease was more dangerous to those with certain preexisting conditions and to older individuals (Imam et al. 2020; Harrison et al. 2020). Specifically, the Centers for Disease Control (CDC) noted seven categories of chronic health conditions that are associated with elevated risk from COVID: cancer, cerebrovascular disease, diabetes, heart disease, kidney disease, lung disease, and obesity.

Generally, those most at risk from COVID were also more likely to die within a given period even in the absence of COVID. For example, mortality is higher among Black than among white Americans (Wettstein et al. 2021). Mortality rates also, of course, rise with age and are higher among individuals with the health problems that lead to increased risk of COVID mortality. The implication of elevated COVID mortality among otherwise high-mortality groups is that survivors of the pandemic's first year are likely to have lower non-COVID mortality.

Such survivor selection might have implications for academic and practical forecasts of mortality in the coming years. To be sure, the overwhelming impact of the pandemic has been to increase mortality rates since 2019; however, a *second order* effect of selection may mitigate mortality increases once the acute phase of the pandemic has passed. The potential impact of survivor selection is particularly important for Social Security; since the Old-Age and Survivors Insurance (OASI) program's costs increase when mortality declines, the heavy death toll of the last few years has had a beneficial impact on program finances. However, the acceleration of deaths of otherwise high-mortality individuals may require new life tables to be estimated.

Of course, if COVID continues to account for many deaths in the next few years despite widespread vaccination, future mortality will not decline as much, if at all. Similarly, if survivors of COVID have elevated mortality risk due to further health complications, like "long COVID," that too would increase mortality.<sup>1</sup> While both these effects would improve OASI's finances, the analysis here assumes that they are negligible to provide a *conservative* estimate of future improvement in mortality from the perspective of OASI.

## **Data and Methods**

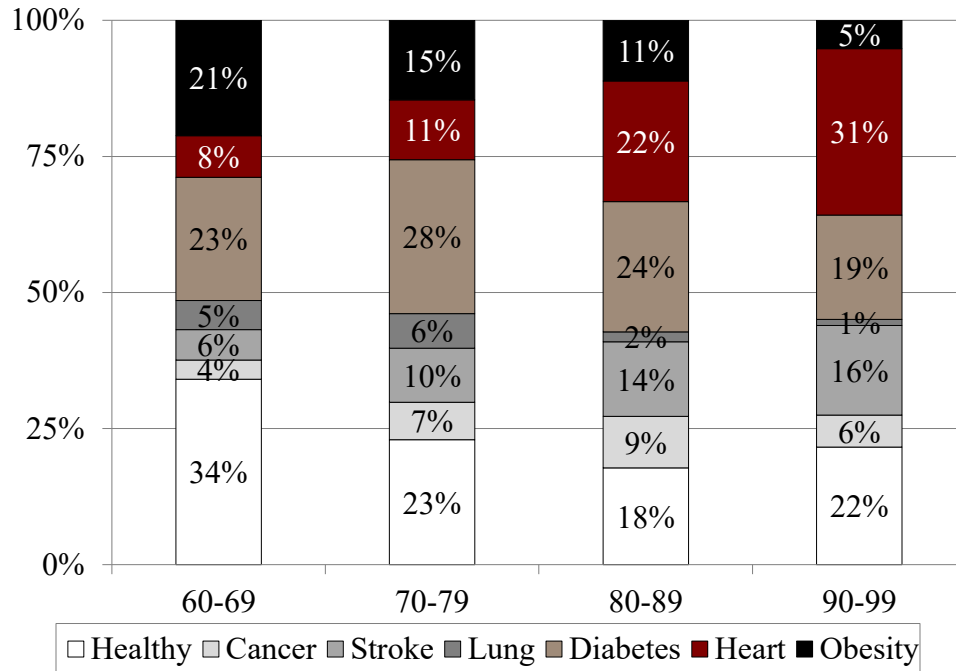
The analysis uses the *American Community Survey* (ACS) from 2019 and the *Health and Retirement Study* (HRS) from 2018 to estimate the demographic and health distributions, respectively, of the over-60 population in 2019. The *National Vital Statistics System* (NVSS) data from 2020 are then used to analyze deaths by cause in 2020 and, by extrapolation, early 2021. These data are combined to arrive at an estimated distribution of the April 2021 population by gender, race, ethnicity, and health status. The estimated partition of the male population into cells defined by age and health is shown in Figure 1.<sup>2</sup>

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<sup>1</sup> For example, see Li et al. (2021).

<sup>2</sup> The main analysis uses a finer partition, broken down also by race and ethnicity, and it also includes women.

Figure 1. *Distribution of Health Conditions by Age Group for Men*



Source: HRS (2018).

Based on this adjusted distribution, new life tables by gender are calculated, and compared with the pre-COVID life tables.

## Results

Column 4 of Table 1 shows these life tables for men and women. To put the new estimates in context, Column 3 shows the 10-year mortality rate estimated pre-COVID. The main result is that mortality rates should be expected to be modestly lower post-COVID than what had been expected before the pandemic. The differences are not large, but they are particularly striking in the oldest age groups, where for both men and women a 1-percentage point decline in 10-year mortality is expected due to the selection of mortality during the pandemic's first year. How large is the estimated decline in mortality? To scale it, the estimated decline is compared with the maximum possible declines that might have been observed based on overall mortality in 2020-2021. Column 5 of Table 1 shows the life table that would result if COVID were *as selective as possible*, given the total number of actual COVID deaths. Naturally, the mortality rates in Column 5 are always lower than Column 4.

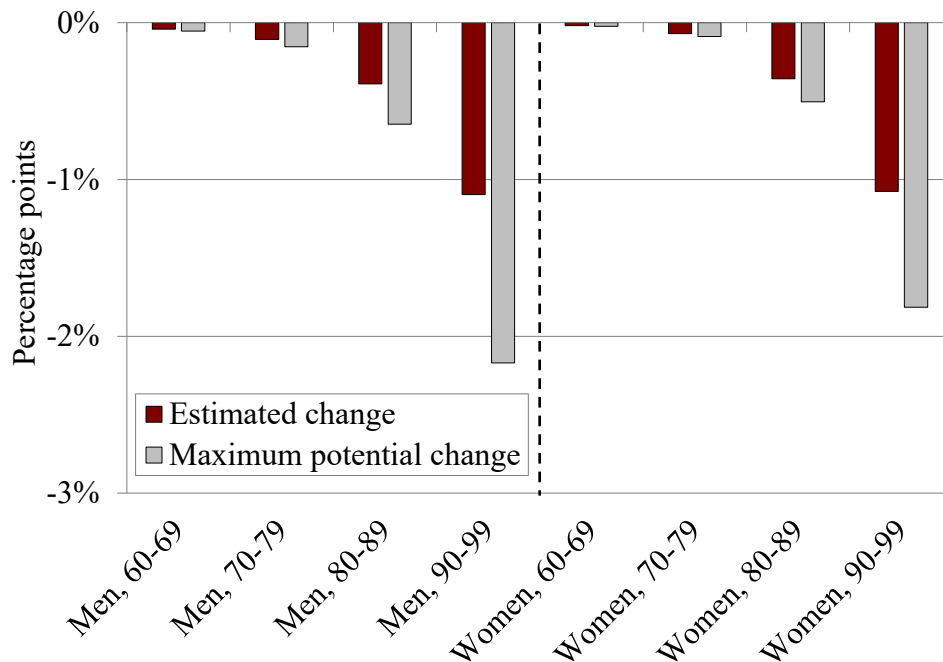
Table 1. 10-year Mortality Rates, SSA 2019 Life Tables versus Post-COVID Adjustments

Gender	Age group	Initial rate	Adjusted	Maximum possible effect
M	60-69	14.6%	14.6%	14.6%
M	70-79	29.2	29.1	29.0
M	80-89	61.9	61.5	61.2
M	90-99	94.9	93.8	92.7
F	60-69	9.2	9.2	9.2
F	70-79	20.8	20.7	20.7
F	80-89	51.4	51.0	50.9
F	90-99	91.4	90.3	89.6

Sources: SSA (2019); and authors' calculations.

To focus in on these differences, Figure 2 shows the *change* in 10-year mortality (in red), and the *maximal potential change* (in gray). As might be expected, absolute declines in mortality rise with age, largely because mortality in general rises sharply with age. Also, pandemic mortality was very selective: mortality declines are more than half of the maximal possible decline at all ages.

Figure 2. The Change in 10-year Mortality, and the Maximal Potential Change



Source: Authors' calculations.

However, a more nuanced finding is that the reduction in mortality as a share of the maximal possible reduction declines with age: for those in their 60s, around 80 percent of the maximal mortality reduction is forecasted to actually take place. In contrast, for those in their 90s only about half of the possible decline is likely to be realized. This pattern implies that COVID was selective in its victims of all ages – but more selective among younger ages, where the frailest were much more likely to succumb.

## **Conclusion**

The populations that bore the brunt of mortality from COVID were not random; instead, minorities were more likely to be infected and, conditional on infection, older adults and those with certain chronic health conditions were more likely to suffer severe illness and death. A consequence of this selection is that those who lived through the pandemic are a slightly different population than those who entered the pandemic. Survivors of the first year of the pandemic are therefore less likely to be members of some of these high-mortality groups.

This analysis shows that while, directionally, the selection effect is likely to reduce mortality in the near future, the magnitude of the impact is modest. Mortality is anticipated to decline by around one percentage point among those ages 90-99, and less at younger ages. In addition, the assumptions made in the analysis were conservative from the perspective of OASI's finances. Thus, in conjunction with the small impacts that selection effects among survivors of the first year of the pandemic might have on mortality, we are likely to continue observing above-trend mortality in the next few years.

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**Extra Income, Health and Mortality: Evidence from Tribal Casinos**

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24th Annual Meeting of the Retirement and Disability Research Consortium

August 4th & 5th, 2022

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## **Abstract**

The relationship between income and health is not well understood. Descriptive studies have documented a positive correlation. Research using exogenous variation in income has found conflicting results on the effect of income changes health outcomes. This work investigates the impact of economic expansions and unearned income transfers arising from tribal casino operations on the health of Native American and other populations residing on reservations. Using the universe of Native American records in Medicare for the period 1999-2018 and a random one-in-five selection of records from other races, we find that casino operations, and in particular unearned cash transfers reduce overall mortality. We find no additional positive effects on Native American populations from casino operations only, though the cash transfers negatively affect Native American mortality at younger ages.

## **Introduction**

American Indian and Alaska Natives have experienced some of the most dire health and mortality outcomes of any race or ethnic group in the U.S. (Barnes et al, 2010; Jones, 2006) for the past five centuries. New health challenges demonstrate equally stark differences in outcomes - during the recent COVID-19 pandemic, American Indians have, at least at the beginning, faced some of the highest death rates in the country (Akee and Reber, 2021).

The underlying causes have been known and of great concern for generations (IHS, 2019; Gracey and Kiing, 2009). Poverty is an important social determinant of health for many communities, but it has been a particularly persistent problem for the American Indian and Alaska Natives (Sequist 2017; Sarche and Spicer, 2008). It has often been quite difficult to identify and measure the health outcomes and even deaths of American Indians and Alaska Natives. These relatively small populations usually do not comprise a large enough group to be represented in many of the most well-known and utilized public panel data surveys. Thus, data limitations have severely limited research on this topic.

In order to undertake this analysis, researchers must identify and use administrative records for this population to be able to conduct standard statistical analyses. For example, Feir and Akee (2019) used Canadian Long-Form Census and the Indian Register data (which provides information on Canadian First Nations individuals). Using this data, the researchers were able to



infer deaths of Canadian First Nations peoples given that other sources often mis-classify First Nations Peoples as “Other”. The same issue presents itself in the U.S. as well where many American Indians and Alaska Natives tend to be categorized on death certificates as, “Other”, “Mixed-Race”, “Hispanic”, and sometimes “White” (Small-Rodriguez and Akee, 2021). These data issues impede the ability to identify and address emerging public health emergencies and criminal activities; this is especially true with regard to missing and murdered Indigenous women and girls phenomenon that has gone unreported due to the lack of reliable data (Lucchesi and Echo-Hawk, 2018). In April 2021, Secretary of the Interior Deb Haaland established a Missing and Murdered Unit within the agency to pursue these cases that have not been investigated (US Department of the Interior, 2021).

The lack of data accessibility and accuracy continues to be a problem for examining outcomes and evaluating policy impact on this population. In prior work, Gorzig et al (2022) examined the disparities between mortality rates for American Indians and whites in the U.S. For example, American Indian women die on average 13 years earlier than their white counterparts and American Indian men die about 12 years earlier than their white counterparts. American Indian men also tend to die more from homicides than their white counterparts.

In this paper we investigate how tribal gaming operations, and associated unearned cash transfers that were disbursed to tribal members, affected mortality in the population on Medicare residing on or neighboring a tribal reservation. The changes in income are directly related to the provisions of the Indian Gaming Regulatory Act (IGRA) taken up by various tribes<sup>1</sup>. Several cross-sectional analyses have been conducted (Evans and Topoleski, 2002; Wolfe et al, 2014) and they generally show beneficial results on health with regard to incomes. However, a persistent concern is that the estimates from cross-sectional studies may be biased due to the changing composition of tribal reservations with the arrival (or departure) of reservation residents, potentially as a consequence of casino operations. Research based on panel data has been limited to individual tribes for whom such data are available (e.g. Akee et al, 2010; 2013; 2018 and 2020).

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<sup>1</sup> AI gaming was authorized via the passage of the Indian Gaming Regulatory Act (IGRA) of 1988. This law provided a standardized method for AI tribal governments to create casino operations on their federally-recognized tribal lands. The purpose of the IGRA was to provide AI tribal governments with a source of revenue in an era of declining federal support of tribal programs and services. The use of the profits from tribally owned and operated casinos are mandated to benefit tribal governments or operations.

Using a difference-in-differences models comparing all-cause mortality for individuals from the same birth cohorts that could be affected by tribal gaming to those residing on reservations that opened a casino later or never opened one, controlling for time and location unobserved characteristics. We find no differential effects of casino operations on mortality, but we do find negative mortality effects of the associated cash transfers. Unearned cash transfers are present in about two thirds of casino operations, and could be initiated at the time of casino opening or later. We also find an age gradient in the effect of cash transfers on Native American mortality. Native Americans younger than age 70 benefit from these transfers more than those above age 75.

## **Data**

Individual data on demographics, health utilization and mortality come from the Medicare Carrier file for the years 1999-2018. We requested data on 100% of individuals who were coded as Native American in the data and a random draw of 20% of all other individuals. Medicare sources race from the Social Security Administration. Information on dates of death is extracted from the National Death Index. We merged the Medicare data to data on casino openings and per capita cash transfer agreements. Only individuals who resided on zip codes that are either fully or partially on a tribal reservation. Notably, the data on cash transfers are on the year in which the compact was signed, not the year in which the transfers started. Further, we have no data on agreements on per capita transfers that were signed after 2009. That is why we restrict the analysis of per capita transfers to years before 2010. Casino openings are dated to the exact year of start of gaming operations.

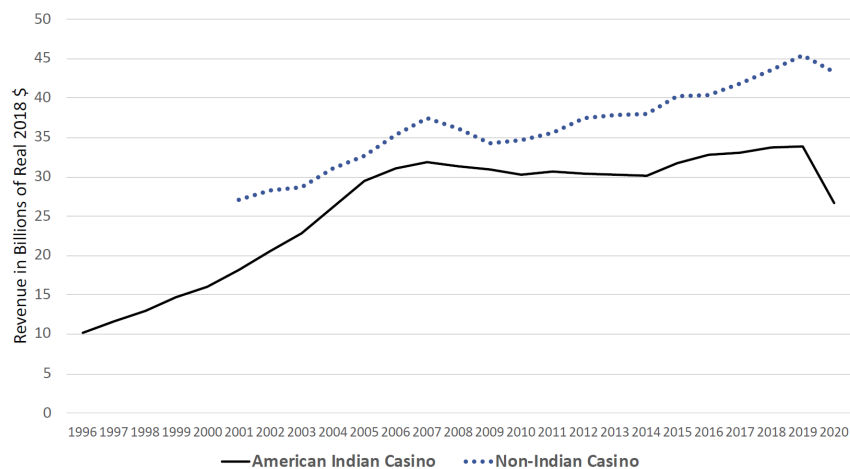
The sample is restricted to those who resided on or near tribal reservations in 1999. This is the first year of available data in our sample. We fix the residential information (zip code of residence) to 1999 and do not consider individuals who join Medicare after that. There is evidence of substantial migration on and off the reservation related to casino operations. We impose these restrictions in an attempt to limit bias arising from selective migration into (or out of) the sample. The average age for Native Americans in 1999 was 67.3 years. The rest of the sample were 72.4 years old on average in 1999. This large difference in mean age is the result of two factors. First, Native Americans are more likely to qualify for Medicare because of disability at a younger age. More than 2.5 percent of those younger than 65 who were on Medicare in 1999 were Native

American. The corresponding share among those aged 65 and older is about one percent (0.98%). Second, conditional on qualifying for Medicare, Native American life expectancy is shorter.

A total of over six million individuals resided on or close to a tribal reservation in 1999 and were represented in the Medicare data abstract. About sixty percent either had a casino open by 1999 or experienced a casino opening by 2018. Two thirds of those who got a casino also had a cash transfer program in place. People living close to casinos were about a year younger in 1999, about as likely to be Native American, but less likely to be Black or Hispanic. They were also about four months older at the time of death, if they died during the observation period. The probability of death during the sample window is 77 percent for those who did not have a casino, and 72 percent for those who did.

There was a corresponding increase in the total revenues generated by the tribal gaming industry. In Figure 1 we plot the revenues of the tribal and non-tribal gaming for the period 1996-2020. Revenues by tribal casinos increased substantially up until 2011 and remain of similar magnitude to the revenues generated by non-tribal gaming operations.

Figure 1 Tribal and Non-Tribal Casino Revenues



Source: National Indian Gaming Commission

## Results

We first investigate whether casino operations and associated cash transfers affected the probability of death in any year. Since there are differences in the determinants of mortality

between men and women, we split the sample by gender. Further, mortality in those who are on Medicare before they reach age 65, who qualify because of disability, rather than age, is likely affected by different factors than in those aged 65 and above. That is why we further consider the subsample of individuals under the age of 65.

Those who identified as Native American and resided on reservations in 1999 had lower life expectancy by about 5 months relative to non-Native Americans. Across all races, men's longevity was about 11 months shorter than women's. We found no substantial differences in the probability of death in any year between those potentially affected by casino operations and the rest of the sample. However, when we consider male and female mortality separately, we see differences in the impact of casino operations by gender. While male Native Americans appear to be somewhat positively affected by casino openings (though the coefficients does not attain statistical significance), female Native Americans experience an increase in mortality associated with the casino. Further, this increase is non-trivial in size, at approximately 3.75 percent (relative to the mean for females in the sample).

The first table below presents results from a specification that includes indicators for the presence of a per-capita transfer agreements and the interaction of that indicator with Native American race. Cash transfers are only possible in the presence of a casino. The sum of the cash transfer and casino coefficients represents the total effect of casino operations on those who also were affected by cash transfers. We restrict the sample to casino openings that took place before 2009.

Again, we find that female Native Americans are negatively affected by casino operations, and there are no statistically significant effects on males and those under the age of 65. Conditional on having a casino, the presence of cash transfers has a negative effect on overall mortality, and these effects are similar across all sub-groups considered though not always statistically significant. We see no additional benefit of the cash transfers for Native Americans, relative to the rest of the population. The cash transfers mitigate the positive relationship between casino operations and mortality for Native American women. The opposite is true for those below age 65, for whom the presence of cash transfers increases mortality for Native Americans.

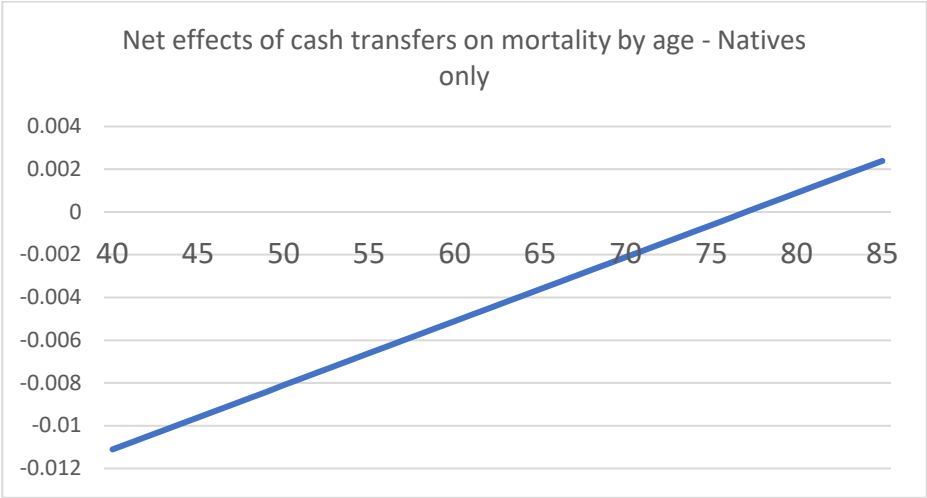
Table 1: Casino operations, cash transfers and mortality

Variable	Sample			
	All	Males	Females	<65
Native American	0.00835 (0.00069)	0.00921 (0.00086)	0.00759 (0.00082)	0.00399 (0.00081)
Casino	0.00011 (0.00051)	0.00020 (0.00057)	0.00004 (0.00054)	0.00071 (0.00038)
Casino*Native American	0.00119 (0.00111)	-0.00078 (0.00139)	0.00291 (0.00123)	-0.00108 (0.00113)
Cash transfer	-0.00077 (0.00042)	-0.00082 (0.00049)	-0.00074 (0.00044)	-0.00021 (0.00031)
Cash transfer*Native	-0.00035 (0.00125)	0.00055 (0.00158)	-0.00123 (0.00134)	0.00281 (0.00131)
Male	0.01579 (0.00009)			0.00566 (0.00012)
Mean Dep Var	0.058	0.061	0.056	0.025
Zip FE	X	X	X	X
Cohort FE	X	X	X	X
year FE	X	X	X	X
Adj R2	0.038	0.0353	0.0404	0.0042
N obs	75,851,081	32,951,487	42,899,594	7,935,419

Note: Standard errors are clustered at the zipcode level. Linear probability regressions of mortality in any year

The effects of additional income on health may differ over the life-cycle. In this sample, in particular, individuals who are on Medicare and younger than 65 are likely to suffer from significant morbidity and disability. Further, as Native Americans experience 12-13 year lower life expectancy than the rest of the US population, there could be survivor biases affecting our results in this population. In particular, those Native Americans who survived past the average life expectancy for this group of about 65 years, could be positively selected relative to non-Native Americans. For these considerations, we estimate additional models that include interactions of our main terms of interest – casino and per capita transfers – with age. The figure below summarizes our findings for the Native American population.

Figure 2: Effects of casino-generated cash transfers of Native American mortality by age



**Conclusions**

This is the first study to examine the effects of tribal casino operations on health and mortality using panel data. We find no significant effects of casino operations without accompanying cash transfers; we do find that the associated cash transfers reduce mortality. We also find a strong age gradient for the cash transfers effects. The gradient is reversed in the Native and non-Native population – younger Native Americans benefit from the transfers more than non-Native populations.

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## **Panel 6: The Impacts of COVID-19**

*Moderator: Gopi Shah Goda, Stanford University*

BC22-02 “How Does COVID-Induced Early Retirement Compare to the Great Recession?”

*Anqi Chen, Boston College*

*Alicia Munnell, Boston College*

*Siyan Liu, Boston College*

UM22-05 “How Will COVID-19 Excess Mortality Affect Social Security Benefit Payouts?”

*Leora Friedberg, University of Virginia*

*Anthony Webb, New School for Social Research*

*Irena Dushi, Social Security Administration*

WI22-13 “Household Composition, Resource Use and the Resilience of Older Adults Aging in Community During COVID-19”

*Samara Scheckler, Harvard University*

*Christopher Herbert, Harvard University*

*Jennifer Molinsky, Harvard University*

*Bonnie Albright, University of Massachusetts, Boston*



## **The Impact of COVID on Social Security Claiming**

Anqi Chen, Siyan Liu, and Alicia H. Munnell, Boston College

24<sup>th</sup> Annual Meeting of the Retirement and Disability Research Consortium  
August 4<sup>th</sup> & 5<sup>th</sup>, 2022

The research reported herein was pursuant to a grant from the U.S. Social Security Administration (SSA), funded as part of the Retirement and Disability Research Consortium. The findings and conclusions expressed are solely those of the authors and do not represent the views of SSA, any agency of the federal government, or Boston College.

## Introduction

As COVID shut down the economy in early 2020, the press asked repeatedly how the economic turmoil – combined with a health crisis and a plunge in the stock market – would affect older workers. At that time, the natural inclination was to draw similarities to how older workers responded in the Great Recession. Specifically, despite a desire to work longer to replenish lost savings, the lack of available jobs forced many to claim Social Security benefits as soon as they were eligible – at 62.

Of course, the COVID experience turned out to be very different than the Great Recession. Although the Dow Jones Industrial Average plunged by 34 percent between mid-February and March 23, it soon recovered and increased to 30,000 at the end of 2020 and 36,000 by the end of 2021 – before beginning a major decline in 2022. The economy also quickly bottomed out, and the NBER defined it as the shortest recession in history – from a peak in February to the trough in April. And unprecedented government support for the unemployed made looking for a job much more attractive than claiming Social Security benefits.

While the contours of the two recessions differ sharply, older workers continued to retire and claim Social Security. The questions explored in this study are the relative impacts of the COVID Recession and the Great Recession on the claiming behavior of different groups and how any change in claiming affected their Social Security benefits.

Specifically, the analysis, using data from the *Health and Retirement Study* (HRS), first compares how the claiming pattern changed in the recession years 2008-2010 from the expansion years 2004-2006 with how the pattern changed in the recession year 2020 from the expansion years 2016-2018. This step, which is based on a discrete-time hazard model, reveals the extent to which the two recessions differentially affected particular groups, defined by race/ethnicity, educational attainment, gender, age, and wealth. Using the results from the hazard model, the analysis then estimates how changing patterns affected monthly Social Security benefits and how these effects differed during the two recessions.

In terms of groups affected, the unique nature of the COVID Recession suggests three hypotheses about the changing composition of claimants:

- Workers facing health risks and unable to work remotely would be more sensitive to high unemployment rates during the COVID Recession and more likely to exit the labor force and claim early, relative to the Great Recession.

- Wealthier workers would likely have benefited from the booming stock and housing markets during the COVID Recession, enabling them to claim early.
- Workers with low earnings, who faced high replacement rates from the unprecedented expansion and increased generosity of UI benefits, would be less likely to claim early in the COVID Recession than in the Great Recession.

The results confirm these predictions. On one hand, workers in poor health, women, and those with assets faced a higher relative likelihood of early claiming. On the other hand, the effects of the generous UI benefits prevented induced early claiming for workers in the lowest earnings tercile. In the aggregate, the opposing factors largely canceled each other out and COVID's effect on early claiming and benefits was virtually undetectable.

## **Data and Methodology**

The analysis proceeds in two steps. First, using data from the HRS and a discrete-time hazard model, the analysis compares how the claiming pattern changed in the recession years 2008-2010 from the expansion years 2004-2006 with how the pattern changed in the recession year 2020 from the expansion years 2016-2018. Second, using the results from the hazard models, the analysis then estimates how changes in claiming affected monthly Social Security benefits and how these effects differed during the two recessions.

A unique aspect of COVID-19 is the enormous expansion in unemployment insurance (UI) benefits, especially among low-wage workers. To measure how UI generosity changed during the COVID Recession and how that compares with the Great Recession, we construct pseudo replacement rates for workers in each tercile of the earnings distribution. These rates reflect the increase in benefit amounts, the extended duration of benefits, and the expansion of workers eligible for benefits.

### *Changing Early Claiming Patterns in Recessions*

For both recessions, the models estimate the probability of claiming early – between ages 62 and the FRA – conditional on not having claimed in prior months:

$$h_{it} \equiv Claim_{it} | S_{it} = \Phi(\beta_0 + \beta_1 U_t + \beta_2 X_{it} + \beta_3 X_{it} U_t + \beta_4 Earn_i UIRR_{jt} + \tau_t + \delta T_t + v_i) \quad (1)$$

where  $S_{it}$  is the survival function, i.e., the probability that  $Claim_{is} = 0$  for all  $s < t$ . The 3-month unemployment rate is denoted by  $U_t$ . The model includes a vector of individual characteristics, denoted by  $X_{it}$ . The demographic characteristics are interacted with the unemployment rate to determine whether certain demographic groups may have responded differently to unfavorable economic conditions. The model also includes an interaction of the pseudo unemployment replacement rate  $UIRR_{jt}$  and pre-62 earnings terciles. In addition to age-month fixed effects,  $\tau_t$ , a linear time trend,  $T_t$ , is included to reflect the downward trend in early claiming rates over time.

### *The Cost of Early Claiming*

Next, the results from the hazard models are used to quantify how the poor labor conditions during the two recessions impacted monthly Social Security benefits as a result of changing early claiming patterns. To calculate differences in monthly benefit levels, we first estimate early claiming patterns based on our hazard model estimates.<sup>1</sup> For each individual, the unconditional predicted probability of claiming in month  $t$  is a function of the predicted hazard:  $\widehat{p}_{it} = \prod_1^{t-1} (1 - \widehat{h}_{is}) \widehat{h}_{it}$ . We also calculate the claiming probability,  $p'_{it}$ , for the expansionary scenario of low unemployment rate periods with regular UI programs. Based on  $p_{it}$  and  $p'_{it}$ , the earnings profile of each individual can be used to compute their expected Social Security benefits based on the distribution of claiming probabilities under the recession and expansionary scenarios.<sup>2</sup> The difference between the recession and expansionary Social Security benefits directly reflects the impact of each recession on monthly Social Security income.

## **Results**

We are interested in two questions: 1) How do the characteristics of COVID-induced early claimers differ from those induced to retire during the Great Recession? and 2) How did the COVID Recession affect the lifetime Social Security benefits of claimers relative to the Great Recession? The discussion focuses on the relative likelihood of early claiming for different

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<sup>1</sup> Specifically, predicted “hazard”,  $\widehat{h}_{it}$ , represents the conditional probability that individual  $i$  has *not* claimed Social Security retirement benefits in specific month  $t$ .

<sup>2</sup> We calculate an individual’s Social Security monthly benefits,  $Ben_{it}$ , with regard to early claiming penalties for each month of claiming up to the FRA period  $T$ , and then compute the expected Social Security benefits under the recession scenario,  $E[Ben_{it}] = \sum_1^T \widehat{p}_{it} * Ben_{it}$ .

groups, calculated using the average unemployment rate and UI replacement rate during the good times before the Great Recession and COVID Recession, as well as during.

### *Who Were the Early Claimers During the Great Recession?*

The results show that women and married individuals were less likely than men and single individuals to claim during the good times, and they became even less likely to claim when unemployment rates were high. Workers with a college degree, on the other hand, had a different response. They were less likely to claim during the good times but their claiming behavior was not discernibly different from that of workers without a college degree during the Great Recession. Those with a working spouse or in the middle wealth tercile also became more likely to claim early during the Great Recession. Low earners were slightly more likely to claim early than the highest-tercile earners (the omitted group) before and during the Great Recession. The increased generosity of UI benefits did not seem to disproportionately affect early claiming for low earners during the Great Recession, as they experienced proportionately similar increases in UI replacement rates as those in the top earnings tercile.

### *Are Early Claimers During the Pandemic Different?*

A few forces at play during the pandemic period differ from the Great Recession, as discussed above. Given these differences, it is not surprising that the characteristics of pandemic-induced early claimers look very different from their counterparts during the Great Recession. Interestingly, the behavior among more advantaged workers was somewhat split. Workers who were homeowners or had a DB plan were somewhat more likely to claim early when unemployment rates were high, relative to the good times. This result contrasts with the Great Recession, when stock and housing market crashes resulted in many losing retirement savings. Workers with a college degree, however, another advantaged group, were less likely to claim early during the bad times of the COVID Recession. The claiming behavior of those in poor health was much more sensitive to high unemployment rates than healthy workers because the COVID Recession, unlike the Great Recession, was the result of a health crisis. Women were less likely to claim early relative to men during the Great Recession but were more likely to claim during the COVID Recession, likely due to increased caretaking responsibilities.

A major differentiating aspect of the COVID Recession was the unprecedented increase and expansion of eligibility for UI benefits. These expanded benefits were also targeted at low-wage workers, as the additional \$600 in weekly benefits would replace a much higher share of earnings for low-wage workers than for higher-wage workers. Indeed, the enhanced UI benefits had an especially strong effect on reducing their early claiming, relative to high earners.

#### *How Much Do Early Claimants Lose in Social Security?*

Changes in early claiming have implications for Social Security benefits, because those who claim early will receive an actuarially reduced benefit. During the Great Recession, the induced effect was strongest among workers in the middle earnings tercile. This roughly 2-percentage-point increase in early claiming probabilities, however, had a very minimal effect – less than a one-percentage-point decrease – on lifetime benefits. In contrast, due to the generous UI benefits, the COVID Recession had virtually no impact on early claiming, particularly among low earners. For this group, generous UI benefits negated the impact of high unemployment rates and resulted in no changes in early claiming penalties on their monthly benefit level.

#### **Conclusion**

In early 2020, the COVID Recession seemed like it would result in an increase in early claiming, similar to the Great Recession. However, pretty quickly, the COVID Recession turned out to be very different. It was spurred on by a health crisis to which older workers were much more susceptible. The subsequent lockdown and lack of caretakers meant that women were also more likely to leave work and claim early. However, pushing against the health effects were the unprecedented gains in the stock and housing markets, reducing the effect of the downturn for some advantaged groups but also, interestingly, allowing other advantaged groups to retire early. Another force pushing against the health effects was the unprecedented expansion and generosity of UI payments. In the end, the competing effects largely canceled each other out and resulted in virtually no change in early claiming. However, the COVID Recession did increase the relative likelihoods of early claiming among those in poor health, women, and those with assets. On the other hand, generous UI benefits prevented induced early claiming for low earners.

## **How will COVID-19 Excess Mortality Affect Social Security Benefit Payouts?**

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## Introduction

The consequences of the COVID-19 pandemic have been widespread and devastating. Government social insurance programs played a critical role in alleviating the unusual magnitude of suffering. Social Security, for example, provided benefits to those who were forced to retire or were widowed earlier than expected.<sup>1</sup> In fact, Social Security is one of our most important social insurance programs, by virtue of its size and unique breadth in insuring against a range of factors associated with unexpected earnings loss and insufficient savings.<sup>2</sup> The flip side of its function as an automatic stabilizer is that increased transfers during aggregate downturns, as well as decreased payroll taxes, harm the long-run finances of Social Security, which of course are already relatively dire. However, among the many unusual aspects of the COVID-19 shock, its defining feature – the excess death toll, especially at older ages, caused by both COVID and the resulting crisis of care in the medical system – stands out for having the opposite effect as the usual downturn does on the finances of Social Security.

In this paper, we project the impact of COVID-19 excess mortality on future Social Security payouts and on the distribution of those foregone payouts by socioeconomic status. The magnitude of the reduction in future payouts will obviously depend on the magnitude of excess mortality, as benefits that would have been paid out to individuals who died as a result of the COVID pandemic will not be. The reduction in payouts will be offset, though, by rising payouts to surviving spouses of COVID victims. Moreover, the magnitude of forgone benefit payments will depend critically on underlying life expectancy of those who fell victim to the pandemic; the impact will be smaller to the extent that excess COVID mortality was concentrated among those who were already frail.<sup>3</sup>

Several features of COVID excess mortality are important to account for when considering its influence on both Trust Fund payouts and its distributional consequences. First,

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<sup>1</sup> Social Security also insured those affected by the pandemic in subtler, albeit imperfect, ways, for example because people who suffered an earnings loss (whether because of a temporary layoff or long COVID symptoms) can expect to get a higher Social Security replacement rate than they otherwise would have.

<sup>2</sup> While Social Security and Medicare are roughly the same size in total spending, Social Security implicitly insures a wide range of risks associated with outliving one's savings in old age, including not only the risk of living longer than expected but also the risks of pre-retirement disability and earnings losses, earlier-than-expected widowhood, rate-of-return shocks, and others.

<sup>3</sup> We omit some important factors that need to be considered in future research. We do not estimate the long-run consequences of long COVID or foregone medical care due to the health care crisis; long-term mortality consequences of the recession; or the impact of excess COVID deaths operating through reduced Social Security Disability Insurance payouts.



medical data show that COVID-19 mortality rates are higher at older ages but are highest among those with pre-existing health conditions. Perhaps, then, those who died from COVID are disproportionately likely to have died relatively soon from other causes. Second, COVID-19 mortality is elevated among men, which may worsen widow poverty rates, already the highest among the elderly (Sevak, et. al., 2003), while increasing survivor claims. Third, excess mortality due to COVID-19 is concentrated at lower socioeconomic levels.

Our initial calculations lead us to conclude that the overall reduction in future Social Security benefit payouts due to pandemic deaths is relatively small. The fundamental reason is that excess mortality, though shocking, has not been all that high relative to the large number of current and future beneficiaries.

## **Approach**

Our goal is to calculate the expected present value of retired worker, spousal, and survivor benefits of current and future retirees, under two scenarios: first, accounting for COVID deaths through late 2021, and second, assuming the COVID pandemic never happened.<sup>4</sup> The difference represents the reduction in obligations resulting from COVID excess mortality. Our modeling will take account of the facts that 1) all-cause mortality, and not just deaths caused by COVID, jumped during the pandemic, 2) individuals who die as a result of COVID may have shorter life expectancies than the average for people of their age and gender, and 3) spouses of retired workers who die may switch from receiving a retired-worker to a survivor benefit.

Our baseline assumption is that COVID-related excess mortality has been proportional to all-cause mortality. If so, the COVID-related deaths among the young would be rare, but each such death would result in a loss of many years of life. In contrast, deaths among the old and those in poor health would be far more common, but each death would result in a loss of far fewer years of life – fewer than if COVID mortality at each age was essentially random. The emerging epidemiological evidence shows that COVID mortality varies with age, health status, race, gender, and socioeconomic status, in ways that are correlated with all-cause mortality. Thus, our assumption is a reasonable starting point. Using this assumption in a simple

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<sup>4</sup> The end date for considering excess COVID deaths in our calculations depends on lags in deaths that are recorded in the National Death Index.

spreadsheet model, along with data on COVID excess mortality by age group in 2020, we can undertake simple calculations of average life-years lost by age due to the pandemic.

We will then relax this assumption by observing directly who has died in recent years according to the National Death Index merged with the Current Population Survey (CPS-ASEC). This merge allows us to observe socioeconomic characteristics of those who died, both before and during the pandemic until late 2021. We use this information for a few purposes. We use it to estimate what life expectancy would have been of those who died during the pandemic, and also to determine who would have been most likely to die in the absence of the pandemic. We accomplish this by incorporating information on the relationship between socioeconomic characteristics, comorbidities, and non-COVID mortality in the Health and Retirement Study.<sup>5</sup> We then use the merge of the National Death Index, the CPS-ASEC, and administrative data from the U.S. Social Security Administration to determine benefit eligibility for both groups of individuals, those who died during the pandemic and those who likely would have died otherwise. We consider eligibility for retired-worker, spouse, and survivor benefits, incorporating models of claim age decisions from Dushi, Friedberg, and Webb (2021, 2022).

### **Spreadsheet Model**

The National Center for Health Statistics Data Brief (Murphy 2021) reports that excess mortality in 2020, compared to 2019, was broadly proportional to baseline mortality. For example, at ages 15-24, excess mortality was 20.8%, compared with 15.0% at age 85-plus. Baseline pre-COVID mortality was of course much lower at young ages, and COVID-19 excess mortality remained quite low at those ages but increased rapidly with age.

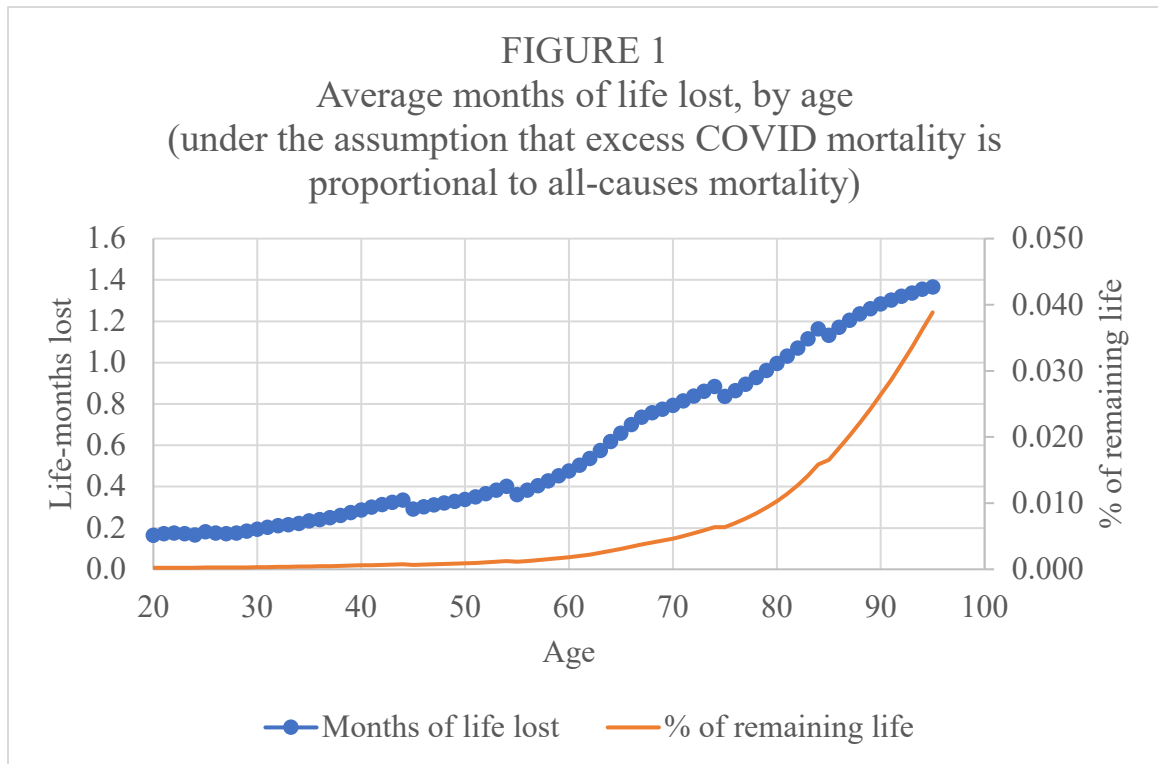
For each age, we simply use cohort life tables from 2019 and apply 2020 excess mortality to determine average years of life lost by age group during the pandemic. This leads us to conclude that the overall reduction in future Social Security benefit payouts due to deaths in 2020 is relatively small. The fundamental reason is that excess mortality, though shocking, was not in fact all that high relative to the large number of current and future beneficiaries.<sup>6</sup> The average years of life lost in 2020 (Figure 1, left axis) rose from 0.17 of a month at age 20 to 0.34

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<sup>5</sup> While we can also determine who died in the HRS, the sample is considerably smaller, making it difficult to gain sufficient precision in this analysis.

<sup>6</sup> COVID mortality appears to have been close to 20% higher in 2021 than in 2020, which should only change our conclusions modestly.

of a month at age 50 to 1.37 months at age 95. This only began to exceed one percent of remaining life expectancy above age 80. To put these numbers in historical context, the loss of life in 2020 was a little less overall than the typical year’s gain in average life expectancy at birth, of about a month.



**Ongoing analysis**

In addition to the simple spreadsheet model, we are undertaking a careful projection of benefit payouts given COVID mortality through late 2021 versus a counterfactual of pre-COVID mortality. We do this by merging administrative data on benefits to the National Death Index and the CPS-ASEC; the CPS-ASEC is a large data set that allows us to observe who died during the pre-COVID and the COVID eras, and we can see their socioeconomic status (SES), though not their comorbidities. We therefore project mortality for CPS-ASEC individuals, given SES, using morbidity and mortality models (Gompertz 1825) estimated from the HRS, a smaller data set with detailed information on comorbidities. Lastly, we use models from our earlier analysis (Dushi, Friedberg, Webb 2021, 2022) to project retired-worker, spousal, and survivor benefits given COVID-related mortality and assuming that it did not happen.

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**Household Composition, Resource Use and the Resilience of Older Adults Aging in  
Community During COVID-19**

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Externally-imposed stressors, such as extreme weather events, major economic fluctuations, or community-wide disasters can be more disruptive for older adults (Fernandez et al. 2002) who are likely to experience limited economic resources, to live alone, and who have higher rates of chronic health conditions and functional disabilities. The Covid-19 pandemic, which simultaneously created economic and health challenges, was particularly difficult, and older adults became especially reliant on other household residents. This research considers whether household composition type was associated with systematic differences in older residents' ability to cope with pandemic conditions. Complex households offer more pathways for older adults to access economic resources and personal care and assistance so these older residents may have been more resilient to pandemic-period stressors. On the other hand, complex households introduce exposure risks, crowding, and other household members with needs.

This project first considered the adequacy of resources by household composition – both financial resources and supportive services. We assess whether, at pre-pandemic baseline, household composition was associated with different resources that could plausibly increase capacity to cope with stressors. We then considered stability, framing the pandemic period as a stress-test to detect associations between resilience and household composition type. We described resilience as an older adult's ability to continue to meet food, medication and housing costs, their ability to continue to receive assistance commensurate with health and functional ability, and their stable trends in self-reported mental well-being.

We anticipated that older adults who lived alone would have the fewest resources to adapt to the pandemic and would experience greater rates of unmet need during COVID-19, and older adults who lived in more complex households had more resources to adapt but also experienced more household-level disruptions. Older adult household composition is important to consider because public benefits programs have the capacity to close gaps for older adults who live alone and increase safe access to that living arrangement (Mudrazija et al. 2020; Tai and Treas 2009).

The project relied on the Health and Retirement Study (HRS), which is panel data with 2020 field dates ranging from March 2020 to May 2021. It also used the HRS supplemental Covid survey that interviewed 3,200 respondents between June and September 2020. Included respondents lived in a community setting at time of survey and were at least 50 years old. We differentiated household composition types as single-person: anyone living alone; partner:

anyone living only with their spouse or partner; or co-resident: describing the rest of the sample. About a third of 2018 households fit into each category. We further differentiated co-resident household types by either age (minors in the household), or by age and relationship (relatives or nonrelatives). To avoid over-weighting larger households, we randomly selected either the respondent or partner to be followed over time.

### **Baseline and Pandemic Period**

We first built a profile of financial and health experiences by household composition type. Between 2010 and 2018, co-residence was particularly prevalent among younger Hispanic adults, with Black older adults not far behind. The share of Black and Hispanic older adults in co-residence remained relatively stable by age band while the share living in single-person households increased with increasing age. For all races and ethnicities, average resident age by household composition type followed life course related changes. Younger cohorts were more likely to share the home with a minor child, while older cohorts who were widowed or separated, were more likely to live alone. So single-person household were older on average and partner households and co-residents living with minor children were younger.

Relatedly, partner households were most likely to be employed and reported the highest median income for all types while single-person households had the lowest. Partner households, which were most likely to own their home, also had considerably more wealth than the other two types. They had a better cushion available to weather sudden income or living cost changes. Using a combined estimate of social security benefits from all programs, reciprocity rates were similar between household type, but partner households received much higher total benefits than people living alone. Income falls with advancing age but social security remains the same, so SSA benefits ultimately make up a larger proportion of income for older partner households. Without either an employed respondent or spouse in the home, a partner household receives about 20 percentage points greater share of income from social security than a co-resident household and about 35 points greater than older adults who live alone.

We also observed health and assistance differences by household composition type. Dementia rates were similar across types while depression rates were somewhat higher for co-resident households, a relationship that held across age bands. People under 65 living alone reported difficulties with more activities of daily living (ADLs) than the other household composition types and at any age, partner households had fewest functional difficulties. A

smaller share of co-resident adults under 65 needed assistance while among all household types, co-residents needed the most support of adults 75 and older. However, co-residents received the highest median hours of monthly support at any age. Of those at any age who received assistance, older adults in co-residence received twice as many hours of monthly support as those who lived alone, and over 50 percent more than those who lived with a partner.

We then assessed economic experiences during the pandemic, finding apparent correlations between baseline differences and pandemic-period economic experiences. Overall, partner households demonstrated more economic stability. They were most likely to have enough money for food during the pandemic and only a third as likely to ration food in 2020 for reasons of affordability. They were also less likely to lose income, particularly compared to co-resident householders who may have been more sensitive to workforce fluctuations due to working-age household members. Though partner and co-resident households had more difficulty making medical payments in 2020 than older adults living alone, possibly related to age-related health insurance subsidies, partner households were still less likely to report skipping medications or rationing medical care due to unaffordability than other household types. Perhaps relatedly, older adults living alone showed more housing instability in 2020. They were more likely to move, and their nursing home use was about threefold higher than the other two household types.

Differences in nursing home use by household composition also suggest differences in pandemic-period health experiences. Older adults living alone had some health advantage as they were more insulated from Covid infections. The highest rates of Covid infection were experienced by older adults living in co-residence, particularly in households with underage children. But older adults living alone were more likely to feel lonely or sad. The most likely to rely on professional personal care, single-person households 75 and older also lost the most assistance in 2020. More than half of older single-person households received fewer hours of help during the pandemic, 20 points higher than partner households and 15 points higher than co-residents of this age. They were also the most likely to receive no help in 2020. Relatedly, adults 75 and older living alone were most likely to have a possible unmet need for assistance during the pandemic. About 20 percent reported difficulty with a specific ADL but also reported that their primary helper did not provide assistance with this ADL.

### **Statistical Analysis of Pandemic-Period Differences**



We built four models to detect statistically significant pandemic-period differences by household composition type. The primary independent variable indicated the three categories of household composition. For all models, covariates included squared age, categorical income in quintiles, a count of the individual's ADL needs (from 0-5), a count of the individual's IADL needs (from 0-5), tenure (owner, renter, lives with another), year, an indicator for public health insurance coverage (Medicare, Medicaid, or VA), and an indicator for the reciprocity of professional/paid personal care.

Our first model analyzed pandemic financial conditions using a Covid survey variable that asked if household income increased, decreased, or stayed the same because of the pandemic. Partner households were 3.5 percent more likely to report steady income through the early pandemic and 3 percent less likely to experience income loss than co-resident households, the base category. There were no significant differences between the income change experiences of people living alone compared to the base.

To assess changes in assistance with household management, we used a Covid survey variable that asked whether the resident received additional help with chores from outside the home due to the pandemic. People living alone and in partner households were 21 and 24 percent respectively more likely to rely on help from outside the home as a result of the pandemic compared to co-resident households. These differences did not vary by income or age. This suggests that differences in pandemic-period supports may have been related to the safe access to caregivers living outside the home and the availability of professional caregivers.

To further examine assistance, we modeled changes in total hours of help received from 2010-2020 and compared these changes between household composition types. This analysis did not detect any pandemic-period differences by household composition. However, we were particularly concerned about impacts for older adults who needed some amount of support, for lower-income older adults with fewer resources to purchase health or assistance, and also Black or Hispanic older adults who often have systematically different experiences with work, housing, and healthcare. So, we restricted the analysis to respondents who received any help, who had an income in the bottom three quintiles (or under \$60,000 each year), and who identified as either Black or Hispanic. This group received 63 fewer hours of monthly support in 2020 as compared to co-resident households in the base year 2010. Other years showed no significant changes in hours of help.

Covid-period changes in support and assistance might signal other health behavior changes, so we ran an analysis using the core survey question that asked whether the respondent had an overnight nursing home stay at any point during that wave. Single-person households were consistently more likely to use a SNF in every wave. On the other hand, partner household residents were 1 percent less likely to stay overnight in a SNF in 2020 as compared with co-resident household types. There was no significant relationship between partner household and co-resident types in other years.

## **Discussion**

This research tells stories of both resource adequacy and resource stability. Findings confirmed that, at baseline (prior to 2020), different household composition types were systematically associated with different types and amounts of resources. Findings then linked older adults' pandemic experiences to these baseline resources.

Residents of partner households, generally younger and healthier, were most likely to begin the pandemic with adequate resources, and resources remained most stable. Reporting fewest pandemic-related challenges meeting financial or assistance needs, they demonstrated the most resilience. Co-residents also tended to have more financial resources before the pandemic than those who lived alone, but they were less financially stable during the pandemic. These older residents began the pandemic with more adequate care and assistance and their pandemic-period support fluctuated less. Paid informal caregiving could increase the economic capacity of co-resident households and improve older adults' financial stability through periods of macroeconomic strain or instability. Single-person householders had the least access to either economic resources or caregivers before the pandemic, particularly considering their advanced age and greater level of need. During the pandemic, they demonstrated more precarity, losing more personal assistance, struggling to afford food, and having the highest rate of nursing home admission. Public funding formulas may need to consider excess capacity needed for older adults living alone to cope with small- or large-scale disruptions.

Older Black and Hispanic adults were least likely to live in partner households, so were more vulnerable to pandemic disruption. Equitable policy may need to consider household composition. Findings reinforced older households' reliance on income from SSA programs, particularly older partner households. Expansion of program benefits might increase financial adequacy and stability for older adults living alone or in co-residence to ensure they have

adequate resources at baseline and the capacity to manage disruptions while maintaining access to both economic and personal care support.

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The Center's research covers any issue affecting individuals' income in retirement. Our main areas of research are Social Security, state and local pensions, financing retirement, tapping home equity, and working longer. The Center's work goes beyond economics. We seek to understand the human behavior behind individuals' decisions so that we can craft solutions that work in practice, not just in theory.

### *Grant Programs*

The Center sponsors the Sandell Grant and Dissertation Fellowship Programs in retirement and disability research. These programs, funded by the U.S. Social Security Administration, provide opportunities for junior or non-tenured scholars and Ph.D. candidates from all academic disciplines to pursue cutting-edge projects on retirement or disability policy issues.

### *Squared Away Blog*

The Center's popular personal finance blog translates complex academic research and financial information into an accessible form. The blog aims to help everyone – policymakers, financial providers, and the public – better understand the factors that shape households' financial decisions from college through mid-career and into retirement.

*Find the Center online:*



<https://crr.bc.edu>



@RetirementRsrch



# MICHIGAN RETIREMENT AND DISABILITY RESEARCH CENTER UNIVERSITY OF MICHIGAN

## About MRDRC

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The MRDRC promotes high quality research on retirement, disability, and Social Security policy; communicates findings to the policy community and the public; enhances access to relevant research data; and helps to train new scholars. MRDRC serves the public and policy community as an authoritative source of information on a range of issues related to retirement income security.

This center is sponsored by a cooperative agreement between the [Social Security Administration](#) and the [University of Michigan](#). Similar centers have also been launched at [Boston College](#), [NBER](#), and [University of Wisconsin](#).

Read more about our [research priorities](#), view [current projects](#), and download more [publications](#) on our website, [mrdrc.isr.umich.edu](http://mrdrc.isr.umich.edu). All publications may be printed directly from the website.

[Join the MRDRC mailing list](#) to receive research publication updates, newsletters, and notice of events and training opportunities.

## Contact Us

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Blog: [mrdrc.isr.umich.edu/blog/](http://mrdrc.isr.umich.edu/blog/)



**The NBER Retirement and Disability Research Center (RDRC)** engages, oversees, and coordinates a large and diverse research team in the study of issues related to Social Security policy and the wellbeing of Social Security beneficiaries. The Center's activities include focused research on a range of Social Security topics, intellectual leadership and planning for new research development, outreach and recruitment of scholars from multiple academic institutions, conference and meeting planning, a fellowship program, a working paper series, and a non-technical newsletter that summarizes findings for a wider audience.

Our **research** focuses on five key areas of emphasis:

1. Enrollment Trends
2. Labor Force Participation
3. Wellbeing of Social Security Beneficiaries
4. Program Operations
5. Related Programs and Program Interactions

The RDRC's **fellowship program** supports trainees at the pre- and postdoctoral level, encouraging research on the health, labor supply, behavioral, and other economic or policy implications of retirement and disability.

**The NBER Bulletin on Retirement and Disability**, a free quarterly newsletter, is available by email. To subscribe, go to <https://www.nber.org/subscribe> and scroll down.

In addition, research findings are available as RDRC and/or NBER Working Papers.

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### **NBER Retirement and Disability Center**

[www.nber.org/programs-projects/projects-and-centers/retirement-and-disability-research-center](http://www.nber.org/programs-projects/projects-and-centers/retirement-and-disability-research-center)

**Contact:** [rdrcadmin@nber.org](mailto:rdrcadmin@nber.org)  
**NBER twitter:** @nberpubs



The Center for Financial Security Retirement and Disability Research Center (CFS RDRC) at the University of Wisconsin-Madison is an applied research program which develops evidence that can assist policymakers, the public, and the media in understanding issues in Social Security, retirement, and disability policy, especially related to economically vulnerable populations. Our Center incorporates a diversity of viewpoints and disciplines; generates research findings for use in policy and practice; and is committed to the training and development of emerging scholars. The CFS RDRC vision is to develop and diversify future RDRC principal investigators.

[Our Research](#) agenda is designed around four central themes:

- Interactions between public assistance and social insurance over the life course
- The role of health, health insurance, and financial decision for household financial security
- How economically vulnerable households use work, pensions, and social insurance over the life course to maintain well-being
- The role of housing, savings, and debt for retirement security among low-net wealth households.

[Our Training](#) programs are focused on offering mentored training opportunities for emerging researchers from underrepresented backgrounds and from a range of disciplines, on issues relevant to SSA policy and practice. Our fellowship programs include several Extramural fellowships opportunities. The Junior Scholar Intensive Training (JSIT) is a unique training model in collaboration with Howard University's Center on Race and Wealth, which sponsors a select group of junior faculty and newly graduated PhD students for an intensive summer training, a small research competition, career coaching, and ongoing mentoring. Social-insurance Undergraduate Research (SURF) is a competitive, four-week, in-person program housed at UIC that provides promising undergraduate students with an introduction to social insurance; the policies surrounding the social safety net; research investigating these, and their impact on economically vulnerable populations.

[Our Resources](#) strive to highlight innovative research; publicize opportunities for emerging researchers in the area of retirement and disability research; and disseminate findings for both policymakers and the public. Sign up to receive news about RDRC research, our quarterly newsletter, publication updates and notice of events here: <https://cfsrdrc.wisc.edu/contact-us>.

Follow us on Twitter: [@UWMadisonCFS](https://twitter.com/UWMadisonCFS).



# RETIREMENT & DISABILITY RESEARCH (RDR) FUNDING OPPORTUNITIES

## For graduate students\*

- **Analyzing Relationships Between Disability, Rehabilitation and Work (ARDRAW)**  
*Administered by Policy Research, Inc.*  
\$10,000 graduate student stipend for research on rehabilitation and return to work for SSA disability beneficiaries  
Annual application period: November–February

## For doctoral candidates

- **Dissertation Fellowship Program in RDR**  
*Administered by The Center for Retirement Research at Boston College*  
\$28,000 fellowship (up to 3) for doctoral students writing dissertations on retirement or disability topics  
Annual application period: October–January
- **Pre-Doctoral Fellowship Program in RDR**  
*Administered by National Bureau of Economic Research*  
\$24,324 stipend (up to 2) for full-time PhD candidates to conduct retirement- and/or disability-relevant research; fellowship also provides limited funds for tuition, health insurance, research expenses, and travel  
Annual application period: November–December

## For junior scholars (recent PhD recipients)

- **Post-Doctoral Fellowship Program in RDR**  
*Administered by National Bureau of Economic Research*  
\$80,000 stipend (up to 2) for new PhDs and early career researchers to conduct retirement or disability research; fellowship also covers health insurance and provides limited funds for research expenses and travel  
Annual application period: November–December
- **Small Grant Program on Poverty, Retirement, and Disability Research**  
*Administered by University of Wisconsin-Madison Center for Financial Security Retirement & Disability Research Center, collaborating with the Institute for Research on Poverty*  
Up to \$45,000 grants to support poverty research related to retirement and disability policies and programs  
Annual application period: December–February
- **Social Policy in Residence Postdoctoral Fellowship Program**  
*Administered by University of Wisconsin-Madison Center for Financial Security Retirement & Disability Research Center*  
Approximately \$68,000 post-doctoral fellow stipend (depending on qualifications) for retirement and disability research relating to households facing economic barriers  
Annual application period: December–February
- **Social Policy Mentored Fellowship Program**  
*Administered by University of Wisconsin-Madison Center for Financial Security Retirement & Disability Research Center*  
\$40,000 stipend (up to 2) for new PhDs and early career researchers  
Annual application period: December–February
- **Steven H. Sandell Grant Program**  
*Administered by The Center for Retirement Research at Boston College*  
\$45,000 grants (up to 3) to pursue cutting-edge projects on retirement or disability issues  
Annual application period: October–January

\* Masters, doctoral, or post-doctoral.

All eligible persons are welcome to apply.

We strongly encourage applications from women, minorities, people with disabilities, and veterans.

<https://www.ssa.gov/policy/about/research-funding.html>