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Impacts of Parental Health Shocks on Adult Children's Wealth Accumulation

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Abstract

Understanding current and future retirees' financial security requires considering that decision-making and subsequent consequences may extend beyond them to their significant others (or their adult children). Children serve as important safety nets to parents according to emerging descriptive evidence, but this aspect is understudied and frequently unconsidered. This study initiates estimating how the responsibility to financially support parents affects adult children's financial planning and savings, using parental health shocks as a plausible catalyst. To assess if parental health shocks affect adult children's wealth accumulation, this study reports tabulations and parameter estimates derived from a pseudo-event study design employing the Panel Study of Income Dynamics. These estimates show that adult children's retirement savings are not substantially harmed by supporting their parents, although longer parental hospitalizations are related to lower liquid savings. Additionally, parental hospitalizations induce child-to-parent transfers.

Keywords: personal finance, personal savings, retirement accounts, intergenerational transfers, Panel Study of Income Dynamics

JEL: D14, D15

1. Introduction

The financial security of current and future retirees may extend beyond their household to include their adult children. Children serve as important safety nets to parents, but this aspect is understudied and frequently unconsidered.[1] According to an American Association of Retired Persons (AARP) survey, 32 percent of prime-aged adults ages 40–64 financially supported their parents in 2019, and 40 percent of them expect to do so eventually (Skufca 2020, 4; Murillo 2021).[2] Most commonly, adult children provide such financial support regularly cover parents' basic living expenses such as utilities and groceries. The AARP survey notes that over half of those providing financial transfers gave at least $1,000 to their parents over a one-year period (Skufca 2020, 4). This is $1,000 per year that could have been deposited into a retirement account earning 6 percent thus amounting to $16,870 forgone for a 52-year-old expecting to retire at age 64.[3]

This study examines intergenerational financial transfers in relation to resulting retirement wealth as provoked from family shocks. Any changes to future retirees' private retirement savings also affect their eventual reliability on and adequacies of Social Security Old-Age and Survivors Insurance (OASI) benefits, especially among economically vulnerable individuals and households. Accordingly, this study investigates a potential link between parental shocks and adult children's financial outcomes by examining whether parental shocks may induce financial transfers, which in turn may impact an adult child's savings. This study relates to a larger unaddressed inquiry concerning how the sudden responsibility to financially support parents affects adult children's long-term financial security, including retirement preparedness.

This study is based on data from the Panel Study of Income Dynamics (PSID) on parental health shocks, intergenerational transfers, and wealth accumulation. I employ a pseudo-event study design that exploits the timing of parental health shocks relative to when reported money

[1] Some individuals grew up in foster care, kinship care, legal guardianship, or otherwise non-traditional or unstable family structures. For brevity, I use "parent(s/al)" through-out this paper to represent all parents and guardians.
[2] Many older prime-aged adults are also simultaneously supporting their adult children (Skufca 2020).
[3] I calculate future value of annuities using both a Texas Instruments BA II Plus financial calculator and in Excel under the setting that payment occurs at the end of the compounding period. The median age in the AARP sample is 52 years old, and the average retirement age is 64. I assume a standard 6 percent interest rate accrued for retirement savings with an annual contribution of $1,000 during the 12-year period. Reported figure is rounded to the nearest dollar.

transfers between parents and adult children occurred. These parental health shocks potentially affect adult children's liquid and retirement savings, as well as how parental health shocks directly affect intergenerational financial transfers to and from their parents.

Financial support from adult children may enhance parents' own financial security yet threaten children's short- and long-term financial security, especially for adult children who are economically vulnerable. In fact, nearly three in 10 older prime-aged adults state that financially supporting their parents imposes a high (as opposed to a "moderate" or "low") financial strain on their own household (Skufca 2020, 10). Additionally, the Employee Benefit Research Institute (EBRI) notes that 40 percent of respondents in their 2021 Retirement Confidence Survey prioritize financially helping family members over saving for their own retirement (EBRI 2021, 19; Murillo 2021). Understanding the role of adult children as safety nets has implications for their wealth accumulation and skills or self-care investments. It may also inform more efficient retirement policy design.

Following a review of prior studies on the effects of various shocks (e.g., unemployment, health, and housing wealth) on retirement outcomes and on the mechanisms of intergenerational financial transfers, this paper describes the data and explains model specifications. Based on the analysis, the findings section reports how parental health shocks (particularly parental hospitalization) affect adult children's liquid savings, retirement savings, and net transfers. Overall, these estimates show that adult children's retirement savings are largely unaffected by supporting their parents, although parental hospitalizations might reduce liquidity. These results illustrate the complex nature of intergenerational transfers, and the challenges for Social Security and financial planning in general related to health shocks for economic well-being.

2. Literature Review

2.1 Effects of Various Shocks on Retirement Outcomes

Vast literature examines the effects of various shocks on life outcomes, including liquidity and retirement outcomes (McGeary 2009; Brown,Coile, and Weisbenner 2010; Lee 2017; Begley and Chan 2018). Many of these papers examine the effects of one's own shocks on retirement propensities and expectations. For example, homeowners experiencing negative shocks were less likely to retire (perhaps even "unretire") and were more likely to postpone claiming Social

Security benefits relative to those experiencing positive housing price shocks (Begley and Chan 2018). Along the lines of wealth shocks, individuals receiving an unexpected inheritance were more likely to retire sooner (Brown, Coile, and Weisbenner 2010).

These shocks also co-depend on if spouses experience them. For example, an individual's own as well as their spouse's chronic health condition diagnosis or ADL index decrease increased the likelihood of retirement (McGeary 2009).[4] Additionally, wives postpone retirement until they are eligible for Social Security benefits when their husbands retire post-job loss (Lee 2017). This especially holds among low-income couples and among couples with breadwinning husbands (Lee 2017).

All these studies understandably employ the Health and Retirement Study (HRS) because older adults are naturally preparing for their upcoming retirement. My study concentrates on liquid and retirement savings propensities and levels as appropriate for prime-aged adults using the Panel Survey of Income Dynamics (PSID).

Other papers examine how adult children's shocks affect parental retirement outcomes, where they find parents consequently decrease retirement savings and reduce retirement prospects. Using the PSID, Edwards and Wenger (2019) find that an adult child's unemployment shock induces financial support from parents at the expense of lowering their retirement savings. Such transfers may also increase parents' expectations of working past age 65 (Miller, Tamborini, and Reznik 2018). My study reversibly examines if parents' shocks affect adult children's liquid and retirement savings, albeit a health shock rather than an unemployment shock to ensure that this "unemployment" is not in fact retirement.

2.2 Mechanisms of Intergenerational Financial Transfers

Current literature mostly focuses on parent-to-child transfers. Parent-to-child transfers are more common among dyads in higher socioeconomic statuses (Berry 2006; Nordblom and Ohlsson 2011). This includes providing financial transfers to their adult children for postsecondary education (Rauscher 2016). Most literature has examined how parent-to-child transfers facilitate various outcomes or has examined if the motives for transfers are altruistic or are effectively payments for future services (e.g., Brown 2006; Hamman, Hochfellner, and Homrighausen

[4] McGeary (2009) included high blood pressure, diabetes, cancer, lung disease, heart disease, stroke, or arthritis. ADL is the acronym for "activities for daily living."

2017). This study does not seek to expand on motivations for parents and children to bequeath or transfer funds. Rather, this study emphasizes its application and subsequent effects on financial security. In particular, it examines the role of health shocks in triggering a child-to-parent financial transfers and in affecting liquid and retirement savings.

Less is known about child-to-parent transfers. Smythe (2020) employs the PSID and finds that parents' Social Security eligibility is associated with fewer child-to-parent transfers. Schaller and Eck (2020) employ the HRS and find that older adult children with low wealth in particular are more likely to transfer money to their parents post-parental adverse shock. To augment this strand of literature, I consider a potential link between parental shocks and adult children's outcomes by examining whether parental health shocks may induce financial transfers among slightly younger adult children in the PSID, which could be one mechanism of impacting an adult child's financial standing.

While this paper does not focus on in-kind transfers, Schaller and Eck (2020) find that older adult children are substantially more likely to transfer time to their parents post-parental adverse shock, especially if the shock concerned becoming a widow, acquiring a disability, or decreasing good health. Considering that Truskinovsky and Maestas (2018) find that informal caregiving is associated with a decrease in the probability of working, and a decrease in days worked within months after beginning caregiving, in-kind transfers could also plausibly reduce long-term financial security among adult children through decreased income and decreased contributions to retirement savings plans.

3. Research Questions

My study simultaneously contributes to understanding how various shocks affect retirement outcomes and to determining mechanisms of intergenerational financial transfers through assessing these two research questions:

1. How does a health shock affecting a parent relate to the adult child's financial response?
2. How does an adult child's financial planning change once they must financially support parents?

While family members transfer funds to each other for many reasons, I examine health shocks as a triggering event because they are the most exogeneous to financial outcomes (compared to

unemployment or housing wealth, for example) and are more removed from the outcome of interest, which pertains to the adult children. The overarching inquiry is: how does the sudden responsibility to financially support parents affect adult children's long-term financial security, including retirement preparedness? Health shocks feasibly catalyze this "sudden responsibility," especially if the health shock induced substantial medical costs or reduced labor supply.

4.Data

To conduct this study, I employ the Panel Study of Income Dynamics (PSID), which has data on parent-child linkages and available information on child-to-parent transfers. Ideally, the dataset would contain longitudinal values in all important variables. It captures financial transfer information to and from relatives annually, but "relatives" can mean anyone who is related to the reference person biologically, by adoption, legally through other means (e.g., legal guardianship or foster care), by marriage, civil union, or domestic partnership, or by choice. My study particularly concerns financial transfers between parents and adult children.

The PSID has two waves of their Rosters and Transfer Supplement, which captures detailed information on money and time transferred from parents to adult children as well as from adult children to parents. PSID administered this supplement in 1988 and 2013. I employ the 2013 supplement only because the 1980s data lacks many health-related datapoints required for my study. While the PSID administers the Main Study biannually, the Roster and Transfer Supplement is a special module that collected money and time transfers occurring between parents and children during the previous year.[5]

The analytic sample population consists of up to 3,401 prime-aged households with reference persons ages 25–54 as of 2013. I restrict age to these ranges to capture prime-aged adults mostly not nearing retirement within the primary timeframe of interest (2007–2019).[6] This means that for young adults any leads prior to 2007 may capture them pre-prime age but leads address concerns that parental health shocks likely have gradual effects on adult children's finances so their pre-prime age at the time of shock is irrelevant. The PSID oversamples low-

[5] This means that all resulting transfers data are measured over a one-year, not two-year, period. The 2013 Rosters and Transfer Supplement enquires about transfers occurring during 2012.
[6] I acknowledge that age 54 technically nears early retirement; six years post places them at aged 60. Age 62 is the earliest that one can begin receiving Social Security retirement benefits. The average retirement age is 64.

income families, which serves this project well given concerns about economically vulnerable families (University of Michigan 2021).

The main disadvantage of the PSID is its smaller sample sizes compared to other surveys (e.g., the National Longitudinal Surveys) as well as administrative data (Mazumder 2018). This is especially apparent for studies interested in birth cohort differences and for studies interested in examining specific subgroups (Huang, Friedline, and Rothwell 2018; Mazumder 2018). As Madzumder (2018) observes, this sample size thus limits the use of PSID data for "exploring heterogeneity across small subgroups of the population" (Mazumder 2018, 225). Hence, heterogeneous effects are unexplored in this paper.

Another limitation includes measurement error in that respondents sometimes respond to some survey questions inaccurately or refuse to respond to them (Mazumder 2018). Such errors are trickier to discern longitudinally in cases where the survey question does not necessarily concern a permanent phenomenon (e.g., banking status or even gender identity), and are not typically supplied with detailed information to assist with detection (e.g., unemployment modules). This creates missing data over longitudinal data, further reducing sample sizes in longitudinal analyses. Analyses employing event study designs require available responses in dependent variables for all years examined to estimate the pre-post event patterns.

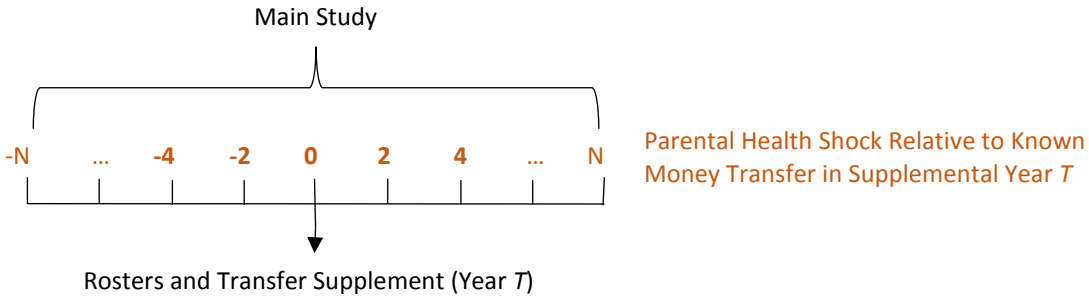
A final major limitation includes longitudinal sample attrition, which are partly mitigated when weighting data as done for regression analyses (Mazumder 2018; Schoeni and Wiemers 2015). However, "attrition is particularly high for low-income adult children with low-income parents and particularly low for high-income adult children with high-income parents" (Schoeni and Wiemers 2015, 351). This aspect of attrition is not particularly concerning in this paper since I am not examining intergenerational mobility as an outcome and high-income adult children might be financially supporting their lower-income parents. Lower-income individuals still prioritize financially supporting family members; hence, estimates concerning transfers among them could be biased downward.

I structure the data to accommodate the study design as illustrated in Figure 1. I pull data on parental health shocks from the 1999–2019 Main Study Family Files and data on adult children's finances from the 2013 Main Study Family Files. I merge these with the 2013 Transfer Supplement.[7] This enables me to exploit parental health shocks up to 10 years before and six

[7] The latest year available is 2019.

years after supplemental year 2013. I then construct my independent variable of interest, which is a series of categorical variables capturing parental health shock relative to the supplemental year.

Figure 1. PSID Data Configuration



Note: In this study, T = 2013.

I proxy parents' health shock with their self-reported hospitalization variable. This variable specifically measures if a parent was hospitalized during the survey's previous year. For example, the 2013 wave asked respondents if they were hospitalized anytime during 2012. I maintain hospitalization counts exactly as available in the data. If a parent was hospitalized anytime during a given year, then that year is coded as "Yes;" otherwise, it is coded as "No." The PSID does not capture hospitalization frequency within a single year. It captures any hospitalization at each survey administration, therefore capturing multiple hospitalizations during the study period.[8] The PSID not only captures self-reported hospitalization on a binary scale (Yes/No), but also captures self-reported hospitalization duration (number of nights and number of weeks). Durations proxy how severe the health incident or condition was, so I empirically examine health shocks using propensity as well as duration. I keep sample members with parental hospitalization data available to maximize analytic sample size. Hence, all results include parents with multiple hospitalizations during the study period.

I measure financial transfers exactly as available in the data. I particularly employ variables that measure if there were any transfers of at least $100 to and from parents and adult

[8] PSID separately asks the reference person and their spouse, if applicable, about their hospitalization during the prior year. These questions, as pulled from the 2013 PSID Main Family Files codebook, were:

- H8. (Were/Was) (you/HEAD/WIFE/"WIFE") a patient in a hospital overnight or longer at any time during 2012?
- H8a. How many nights (were/was) (you/HEAD/WIFE/"WIFE") in a hospital altogether in 2012?—DAYS
- H8a. How many nights (were/was) (you/HEAD/WIFE/"WIFE") in a hospital altogether in 2012?—WEEKS

children in the prior year, and the amount transferred in the prior year.[9] I then construct a "net transfer" variable, which is the amount of money parents transferred to adult children minus the amount of money adult children transferred to parents. A positive net transfer indicates that parents primarily transferred money to their adult children, and a negative net transfer indicates that adult children primarily transferred money to their parents.

Adult children can have up to two parents listed in the Rosters and Transfers Supplement.[10] To maintain parsimony, I prioritize the reference adult child's reference parent's self-reported hospitalization information.[11] Parents were hospitalized an average of once (twice when conditional on ever hospitalized) between 2003 and 2019.[12]

5. Methods

Given the data structure, I employ a pseudo-event study design to exploit variation in the timing of parental health shocks relative to the known money transfer in supplement year 2013. Event studies are appropriate in this context because I am exploiting relative rather than absolute timing. This still does not capture the longitudinal or long-term nature of financial transfers, but nevertheless provides insights into the connection between short-term shocks and financial security.

In applied economics, event studies extend the traditional difference-in-differences approach in that they examine how a specific event occurring at different times for different unit of analyses affect a particular set of outcomes (Clarke and Schythe 2020; Cunningham 2021; Sun and Abraham, forthcoming). Event studies capture each unit of time in a series of dummy

[9] PSID asks the following regarding financial transfers to and from parents and adult children, as pulled from the 2013 PSID Rosters and Transfers Parent/Child File codebook:
- PT7. In 2012, did [you/HEAD] (or spouse) give any money, loans or gifts of $100 or more to your parent(s)?
- CT7. About how much did you (your spouse/partner/wife/"wife") give?—AMOUNT
- PT9. In 2012, did [your/HEAD's] (or spouse's)] parent(s)/child(ren) give you any money, loans or gifts of $100 or more?
- CT9. About how much did you receive from parent(s)/child(ren)?—AMOUNT

I employ the family level file, which captures total amount transferred during the entire year.

[10] They also have up to four parents recorded in the PSID Main Individual Files, but I employ the ones listed in the Roster and Transfers Supplement to analyze a consistent set of parents across all outcomes.

[11] Researchers could extend this study post-period of performance to examine effects of other parents' hospitalizations on adult children's savings, both as separate and pooled beings. This would inform sensitivity based on precise parental relationship, especially since males are marked as "head" or "reference person" in married or partnered relationships.

[12] See Appendix B for details.

variables before the unit of analysis was "treated" (lags) versus after the unit of analysis was "treated" (leads) relative to the unit of analysis that was never treated (Clarke and Schythe 2020; Cunningham 2021; Goodman-Bacon 2018; Sun and Abraham, forthcoming). Event studies help to disentangle some of the bias that may exist in standard two-way models when treatment effects vary over time (Goodman-Bacon 2018), but lags and leads may still not cleanly capture effects if they are correlated with each other (Sun and Abraham, forthcoming).

Economists primarily employ event studies to demonstrate that units of analyses plausibly exhibit similar outcomes prior to event occurrence, where the event occurrence is typically a policy adoption or implementation in policy analysis. Policies are not being evaluated in this paper; hence, the event study does not seek to establish plausible similarities between treated and control groups pre-treatment. "Treatment" year in context of this study refers to supplemental year 2013, and the unit of analysis regarding the treatment are parents. Parental hospitalization is the "event," and adult children's intergenerational transfers and savings are the outcomes. Event study approaches are useful here in that I can explore if parental hospitalizations differentially impact intergenerational transfers or savings according to when it occurred relative to the known transfer in 2013 (e.g., do hospitalizations occurring in 2013 induce a larger transfer than hospitalizations that occurred in 2010?). I can also explore if hospitalizations seem to affect financial supports to parents temporarily or permanently.

I employ a *pseudo* version of the event study design (hence the term "pseudo-event study design") in that my "treatment" of interest, parental hospitalizations, are longitudinal. The parental hospitalization variables captured if the reference parent was hospitalized for each year between 2007 (six years prior to supplemental year 2013) and 2019 (six years post supplemental year 2013). This enables me to exploit the timing of parental health shocks relative to when reported money transfers between parents and adult children occurred. The adult children's outcomes, however, are all cross-sectional instead of longitudinal since they reflect their finances and intergenerational transfers only during the supplemental year 2013. This limits understanding temporal dynamics on the adult children's end, such as if the adult child is transferring money themselves due to that particular hospitalization annually for up to X years post-hospitalization.

To address my research questions, I conduct two empirical exercises. First, I describe incidences of financial transfers and amounts of liquid and retirement savings held by parental

hospitalization occurrence. Second, I employ a design akin to an event study to estimate how parental hospitalizations occurring *n* years relative to supplemental year 2013 (PARENTAL SHOCK) correlate with the adult child *i*'s 1) frequencies and levels of parent-to-child, child-to-parent, and net financial transfers (TRANSFERS), and 2) propensities and levels of liquid and retirement savings (SAVINGS), controlling for the adult child *i*'s fixed demographics (race/ethnicity, gender, age in 2013, and if completed education in 2013 as captured in vector *X*) using the following reduced form specifications:

$$f\left(\widehat{TRANSFERS}_i\right) = \beta_0 + \sum_{n=-6}^{6} \theta_n PARENTAL\_SHOCK_{n,i} + X_i'\beta + \varepsilon_i \quad (1)$$

$$f\left(\widehat{SAVINGS}_i\right) = \beta_0 + \sum_{n=-6}^{6} \theta_n PARENTAL\_SHOCK_{n,i} + X_i'\beta + \varepsilon_i \quad (2)$$

In examining parental shocks, I omit year 2011, or *n* = -2 (two years before the known financial transfer occurred). I convert all continuous measures of liquid and retirement savings using inverse hyperbolic sines (IHS) to permit lognormality while preserving zeroes as zeroes. I maintain reduced-form specifications throughout the study because I cannot assume that parental hospitalizations only affect adult children's savings through financial transfers. Adult children may also relocate closer to ailing parents, reduce their labor supply, or encounter other time allocation shocks which in turn may reduce savings.

6. Results

6.1 Descriptive Statistics

The analytic sample comprises prime-aged reference persons, of which one-quarter are women, as shown in Table 1. By design, all women designated as reference persons are single because the Panel Study of Income Dynamics (PSID) designates reference person assignment to males in marriage. Two-fifths of the overall sample is unmarried (single, widowed, or divorced). The median sample member is 35 years old. Since the average age is slightly higher than the median age, this suggests that sample members are generally older on the middle-age spectrum. The median years of education completed is equivalent to two years of college, although this considerably ranges from no schooling to some postgraduate education. Very notably, the sample earned an average annual family income of nearly $75,000. The median annual family income is

$56,000, revealing that the sample skews high-income. Sample members earned a minimum of -$11,500 to a maximum of $3.3 million.

According to the United States Census Bureau (2013a, 2013c), higher proportions of the analytic sample are male, single, and are underrepresented minorities compared to the 2013 adult population.[13] Despite the narrower age range among the analytic sample, the average age and the mode educational attainment (12th grade/high school graduate) match that of the overall adult population (United States Census Bureau 2013a, 2013b). The overall adult population has a higher mean annual family income ($86,406) and higher median annual family income ($64,030) than the analytic sample (United States Census Bureau 2013d). In both cases, the mean exceeds the median, as expected for the United States. This suggests that the analytic sample is of lower income than the general adult population, as expected given that the PSID oversampled low-income populations and that relative mobility in the United States is low.

At least one in five sample members have a parent who experienced some type of health or disabling shock between 2003 and 2019. Over half of parents were ever hospitalized during the data window; 23 percent of parents reported a permanent or temporary disability; 19 percent of parents reported a permanent disability; and one-quarter of parents reported drastic declines in health. Drastic declines in health means that a parent reported that their health status declined at least at least two levels or more on a five-point Likert scale between the current and prior period.[14] For example, their health might have decreased from "excellent" in the prior period to "good," "poor," or "very poor" in the current period.

Table 1. Sample Characteristics

VARIABLES	Mean
Female	25%
Underrepresented minority	42%
Single (unmarried)	40%
Age (SD = 8.2 years)	36.5

[13] Overall adult population statistics for adults ages 18 and above are derived from the 2013 ACS 1-Year Estimates.
[14] The five-point Likert scale includes "excellent," "very good," "good," "fair," and "poor."

VARIABLES	Mean
Years of education completed (SD = 2.2 years)	13.8
Total family income, 2012 (SD = $105,862)	$74,660
Parent ever hospitalized	56%
Parent ever permanently/temporarily disabled	23%
Parent ever permanently disabled	19%
Parent ever report drastic decline in health	25%

Note: N = 3,401. Unweighted. Except where noted, summary statistics refer to the reference person. I provide more sample characteristics in Appendix A and detailed income distributions in Appendix C.

Overall, Table 2 shows that 21 percent of the sample gave their parents money in 2012 and 28 percent of the sample received money from their parents in 2012. Conditional on any short-term transfers, adult children transferred $1,218 on average to their parents. Parents received anywhere from $100–$36,000. Adult children transferred a median amount of $500. Given that the mean amount transferred exceeds median amount transferred, this suggests that transfers skew high.

Unconditional on any short-term transfers, adult children transferred $250 on average to their parents. While economists deem $250 over a one-year period not very large in absolute terms, we must be privy about present versus future values in context of retirement and wealth accumulation. Wealth accumulation lost is actually $15,926 if we assume that one transfers $250 per year to their parents instead depositing it into a retirement account earning six percent over a 27-year period.[15] This equals approximately one year's income under the current poverty threshold of $17,555 for a senior citizen aged 65 or older with one minor child under their care (Li and Dalaker 2021).[16]

Table 2. Summary Statistics of Intergenerational Financial Transfers

VARIABLES	N	Mean	Median	SD	Min	Max
Money to Parents:						
Any	3,401	21%	—	—	—	—
Amount, Unconditional	3,376	$245.70	$0	$1,196	$0	$36,000

[15] I calculate future value of annuities using both a Texas Instruments BA II Plus financial calculator and in Excel under the setting that payment occurs at the end of the compounding period. The average age in the sample is approximately 37 years old (see Table 1), and the average retirement age is 64. I assume a standard six percent interest rate accrued for retirement savings with an annual contribution of $250 during the 27-year period. Reported figure is rounded to the nearest dollar.

[16] If we assume a projected median inflation rate of 1.63 percent over a 27-year period, then the future value of said poverty threshold is approximately $27,164. This then means that the wealth accumulation lost represents seven months of said senior's income instead of one year.

VARIABLES	N	Mean	Median	SD	Min	Max
Amount, Conditional on Any	681	$1,218	$500	$2,431	$100	$36,000
Money from Parents:						
Any	3,401	28%	—	—	—	—
Amount, Unconditional	3,372	$725.20	$0	$3,267	$0	$70,000
Amount, Conditional on Any	930	$2,629	$800	$5,806	$100	$70,000
Net Transfer	3,354	$481.30	$0	$3,480	-$36,000	$70,000

Note: Unweighted. Except where noted, summary statistics refer to the reference person. I include summary statistics on parent-to-child transfers for reference purposes. I provide more detailed distributions in Appendix C.

However, the overall statistics mask income heterogeneity. When examining income quintiles in Table 3, parents received $173 to $386 from their adult children. Adult children at higher income quintiles receive more money from their parents while also transferring more to their parents than adult children at lower income quintiles. However, adult children from the lower three income quintiles may be sending a slightly greater proportion of money to parents than they receive from parents. This somewhat corresponds with lower-income respondents being more likely to rank financially supporting family members a higher priority than saving for retirement (EBRI 2021; Murillo 2021).

Table 3. Transfer Propensities and Mean Amounts by Income Quintile

	Any Transfers		Amount Transferred			Ratio
Quintile	Parent-to-Child	Child-to-Parent	Parent-to-Child	Child-to-Parent	Net Transfer	
1	33%	20%	$515	$173	$345	0.34
2	30%	24%	$496	$187	$311	0.38
3	28%	21%	$708	$265	$445	0.37
4	26%	19%	$809	$218	$596	0.27
5	25%	21%	$1,095	$386	$706	0.35

NOTES: N = 3,401. Unweighted. Rounded to the nearest dollar. Further assessments by parental income are currently unavailable. Ratio column is the amount transferred to parents divided by the amount received from parents.

Suggestive evidence in Table 4 reveals that on average, adult children of sicker parents have higher retirement savings than adult children of healthier parents. Higher retirement savings run counter to my hypotheses and does not corroborate with trends displayed within other forms of parental health shocks. However, it is a function of having older parents who are naturally more likely to be hospitalized.[17] Higher proportions of adult children with sicker parents transferred money to their parents. Amounts transferred between parents and adult children, however, are indistinguishable by parental hospitalization status.

Unobservables or endogeneity could drive these correlations. So, I present the main findings from my pseudo-event study research design to help disentangle this issue.

Table 4. Summary Statistics of Financial Transfers and Wealth Accumulation by Hospitalization Incidence

	Any Short-Term Transfers			**Any Account**	
	Parent-to-Child	Child-to-Parent	Net	Liquid Savings	IRAs/Annuities
Hospitalized: No	19%	29%	—	74%	18%
Hospitalized: Yes	23%***	28%	—	67%***	19%

	Amount of Money Transferred			**Savings**	
	Parent-to-Child	Child-to-Parent	Net	Liquid Savings	IRAs/Annuities
Hospitalized: No	$844	$203	$641	$13,316	$11,110

[17] In my analytic sample, an adult child's age positively correlates with parental hospitalization likelihood for all years, parent's age, and IRA savings propensity and levels.

	Amount of Money Transferred			Savings	
	Parent-to-Child	Child-to-Parent	Net	Liquid Savings	IRAs/Annuities
Hospitalized: Yes	$633	$280	$356*	$12,338	$18,284***

Note: N = 3,401. Unweighted. Rounded to the nearest dollar. Unconditional on making transfers or having savings/retirement accounts. Counts ever been hospitalized. Differences are statistically significant at the one percent level (***) or 10 percent level (*). T-tests were weighted. I provide detailed comparisons by other forms of parental health shocks as well as for propensities in Appendix D.

6.2 Main Findings

For each table throughout this section, Columns (1) and (2) display probabilities of engaging in a specific transfer or having a specific account. Columns (3) and (4) display amounts transferred, or amounts held in specific accounts, unconditional of any account ownership. Furthermore, Columns (1) and (3) display effects of any hospitalization during the prior year, whereas Columns (2) and (4) display effects of said hospitalization duration. Note that Columns (2) and (4) are unconditional of any hospitalization.

Table 5 reveals the effects of parental hospitalizations on adult children's retirement savings. Most coefficients for parental hospitalization propensity have a negative sign, suggesting potentially lower propensities of having an Individual Retirement Account (IRA) or annuity among adult children of hospitalized parents. Parental hospitalizations have no effect on having an IRA or annuity except for two years after supplemental year 2013, where parental hospitalization decreases the probability of having an IRA or annuity by 7.5 percentage points. Given that 19 percent of prime-aged adult children in the sample have an IRA or annuity, this translates to a 39 percent reduction. This is unexpected because this hospitalization occurs *after* supplemental year 2013. Yet since it is just two years post, this might signal compensation for some other shock occurring prior to any hospitalization in post-supplemental years.[18]

This effect seemingly occurs on the extensive rather than the intensive margin, given the statistically insignificant effects for hospitalization duration. Duration may be trivial compared to the sheer shock of any hospitalization since point estimates hover between 0–0.4 percentage points (0–2 percent as a marginal effect).

In terms of amounts saved in an IRA or in an annuity, any parental hospitalization two years post supplemental year 2013 nearly depletes the amount saved in an IRA or value in

[18] Recall that the PSID asks about hospitalizations during the year prior to survey wave administration. Hence, this is really one year post-supplemental year.

annuities. I find no statistically significant effects on the extensive margin (any hospitalization) but I find some effects on the intensive margin (days hospitalized), particularly six years prior to supplemental year 2013. Each day spent hospitalized reduces IRA or annuity holdings by approximately 6 percent. Hence, if a parent spent 10 days in the hospital six years ago, then the adult child would have half as much remaining in their IRA or annuity in 2013.

Overall, I find results that mostly counter my descriptive statistic of adult children with unhealthier parents holding higher amounts in IRAs or annuities. Adult children whose parents were hospitalized might have lower IRA savings either because they contributed less to their IRAs or cashed out some of their IRA to financially support ailing parents.[19]

Table 5. Average Marginal Effects of Parental Hospitalization on Adult Children's Retirement Savings from OLS Regressions

	(1)	(2)	(3)	(4)
	IRA or Annuity, Any		IHS (IRA or Annuity Levels)	
Hospitalization:	Any	Duration, Days	Any	Duration, Days
6 Years Pre	-0.028	-0.004*	-0.426	-0.055**
	(0.029)	(0.002)	(0.317)	(0.022)
4 Years Pre	0.054*	0.000	0.584	0.010
	(0.032)	(0.002)	(0.359)	(0.021)
0 Years Post	-0.024	-0.001*	-0.124	-0.010
	(0.030)	(0.001)	(0.337)	(0.007)
2 Years Post	-0.075***	-0.002*	-0.924***	-0.017*
	(0.027)	(0.001)	(0.295)	(0.010)
4 Years Post	-0.025	-0.001	-0.013	-0.004
	(0.029)	(0.001)	(0.327)	(0.012)

[19] Researchers could explore these mechanisms in an extended study. The PSID captures if and how much sample members contributed to or cashed out of their IRA in the past year. Unconditionally, simple linear regressions reveal that parental permanent or temporary disability as well as parental self-reported decline in health status correlates with adult children's lower propensity to contribute to IRA accounts in 2013, where parental permanent disability also correlates with lower amounts contributed to IRA accounts in 2013. Researchers may be interested in examining if this especially holds when lagging parental health shocks.

	(1)	(2)	(3)	(4)
	IRA or Annuity, Any		IHS (IRA or Annuity Levels)	
Hospitalization:	Any	Duration, Days	Any	Duration, Days
6 Years Post	-0.019	-0.002	-0.280	-0.016
	(0.026)	(0.001)	(0.284)	(0.011)
Unconditional Mean	0.187	0.187	$15,120	$15,120
N	2,537	2,524	2,497	2,484
R^2	0.146	0.143	0.155	0.151

Note: Weighted. All regressions control for adult child demographics. Reference category: two years pre supplemental year 2013. Full regression results are in Appendix E. *p < 0.10, **p < 0.05, ***p < 0.01

Financial planning stresses ample liquidity in case of emergencies. Therefore, theoretically, liquidity should decline before more illiquid savings decline, especially if parents were hospitalized shortly before or after supplemental year 2013.

Accordingly, I uncover a somewhat clearer picture when examining effects of parental hospitalizations on adult children's liquidity in Table 6, although still not along the expected timelines. Most coefficients carry a negative sign, as expected. Any parental hospitalization four years post supplemental year 2013 (three years post supplemental year 2013, effectively) decreases the probability of having a liquid account by 7.3 percentage points. Since 70 percent of prime-aged adult children in our sample have a checking or savings account, this translates to a 10 percent decrease.

On the intensive margin, a one-day stay in the hospital during the sixth year prior to supplemental year 2013 decreases the probability of being banked by one percentage point. Each day hospitalized during the second year after supplemental year 2013 decreases the probability of being banked by 0.3 percentage points. Days hospitalized during the supplemental year 2013 has no effect on the probability of being banked. These findings may signal anticipation effects; hence, some other shock has likely occurred before hospitalization.[20]

Results concerning liquidity levels somewhat reflects my expected trends. While any parental hospitalization did not affect liquidity propensities, it decreased liquidity levels. This, coupled with lower liquid account propensity two years post supplemental year 2013 suggests that adult children may be incrementally emptying their accounts to support their parents before closing it. When examining hospitalization duration, one day hospitalized during the sixth year

[20] Or all these anticipation effects might correlate with pre-existing conditions, which power prohibits me from further uncovering.

post supplement year 2013 decreases liquidity levels by 12 percent, and decreases liquidity levels during the second year after supplemental year 2013 by three percent.

Table 6. Average Marginal Effects of Parental Hospitalization on Adult Children's Liquidity from OLS Regressions

	(1)	(2)	(3)	(4)
	Banked		IHS (Liquidity)	
Hospitalization:	Any	Duration, Days	Any	Duration, Days
6 Years Pre	-0.041	-0.010**	-0.575*	-0.115***
	(0.037)	(0.004)	(0.334)	(0.031)
4 Years Pre	-0.010	-0.001	0.059	-0.001
	(0.033)	(0.002)	(0.314)	(0.017)
0 Years Post	-0.074*	0.000	-0.669*	-0.010
	(0.039)	(0.003)	(0.358)	(0.020)
2 Years Post	-0.065*	-0.003***	-0.754**	-0.029***
	(0.033)	(0.001)	(0.311)	(0.008)
4 Years Post	-0.073**	-0.002*	-0.352	-0.018
	(0.033)	(0.001)	(0.316)	(0.012)
6 Years Post	-0.013	0.001*	-0.222	0.015*
	(0.029)	(0.001)	(0.263)	(0.008)
Unconditional Mean	0.699	0.699	$12,767	$12,767
N	2,536	2,523	2,542	2,529
R^2	0.216	0.211	0.300	0.298

Notes: Weighted. All regressions control for adult child demographics. Reference category: two years pre supplemental year 2013. Full regression results are in Appendix E. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table 7 shows the effects of parental hospitalizations on adult children's financial transfers. I explain and display effects on child-to-parent transfers since parent-to-child and net transfers are unaffected. Overall, any parental hospitalizations six years prior to and during supplemental year 2013 increase adult children's probability of transferring any money to parents by 8.6 percentage points (41 percent) and 6.9 percentage points (33 percent), respectfully. These trends generally align with my expectations. Higher propensities of child-to-parent transfers among adult children whose parents were hospitalized earlier suggests that they might be financially assisting parents due to any lingering impacts of hospitalization on parents, such as reduced labor supply or any remaining or persistent medical costs associated with the diagnosed condition or treated injury.

In terms of parents' hospitalization durations, a one-day stay in the hospital during the fourth year post supplemental year 2013 decreases the probability of transferring money to

parents by 0.1 percentage points. This corresponds with the decreased likelihood of having any liquidity during the same year; one cannot provide what they lack. Point estimates for other years range from 0–0.8 percentage points per day, with year of known money transfer notably at zero percentage points. This zero estimate at the intensive margin alongside a substantially significant effect at the extensive margin is initially interesting, but this zero estimate is not marginally statistically significant. Hence, it is an imprecise null.

Expectedly, I also find corresponding increases in child-to-parent transfers at the intensive margin. Any parental hospitalizations at six years prior to and during supplement year 2013 increase the amount that an adult child transferred money to their parent by over 50percent, respectively. Since adult children transferred an average of $246 to their parents, this suggests that they transferred an additional $129–$146 to parents currently or previously hospitalized. When converted to a future amount upon retirement for a 37-year-old ultimately retiring at age 64, this amounts to a potential loss of $622–$704.[21] If we assume the current poverty threshold for a senior citizen aged 65 or older with one minor child living with them of $17,555, then this could amount up to half of one month's income (Li and Dalaker 2021).[22] This amount becomes negligible as income increases.

They could be retrieving these funds from their retirement and bank accounts for the sixth year before the supplemental year as indicated in Tables 5 and 6, but the amount withdrawn may be primarily a function of days a parent is hospitalized (which proxies for severity of condition). I cannot determine nor postulate the adult children's source of financial transfers right at supplemental year (2013) since duration weakly negatively correlates with probability of having IRAs and weakly negatively correlates with liquidity propensity or level.

Table 7. Average Marginal Effects of Parental Hospitalization on Child-to-Parent Transfers from OLS Regressions

[21] I calculate future values using both a Texas Instruments BA II Plus financial calculator and in Excel under the setting that payment occurs at the end of the compounding period. The average age in the sample is approximately 37 years old (see Table 1), and the average retirement age is 64. I assume a standard six percent interest rate accrued for retirement savings and I exclude any periodic payments that may occur within the 27-year period. Reported figure is rounded to the nearest dollar.

[22] In 1959, 35 percent of seniors were living in poverty. In 1974, 15 percent of them were living in poverty. As of 2019, nine percent of them are living in poverty. The poverty threshold for seniors without minor children under their care is $12,261 (Li and Dalaker 2021).

	(1)	(2)	(3)	(4)
	Child-to-Parent Transfer, Any		IHS (Amount Transferred to Parents)	
Hospitalization:	Any	Duration, Days	Any	Duration, Days
6 Years Pre	0.086**	0.008	0.595**	0.060
	(0.036)	(0.005)	(0.264)	(0.038)
4 Years Pre	0.026	-0.000	0.210	-0.000
	(0.034)	(0.001)	(0.249)	(0.005)
0 Years Post	0.069**	-0.000	0.525**	0.002
	(0.034)	(0.002)	(0.256)	(0.013)
2 Years Post	-0.011	0.001	0.003	0.010
	(0.029)	(0.001)	(0.213)	(0.010)
4 Years Post	-0.018	-0.001**	-0.109	-0.007**
	(0.029)	(0.000)	(0.213)	(0.003)
6 Years Post	0.007	-0.000	0.014	-0.003
	(0.027)	(0.001)	(0.194)	(0.004)
Unconditional Mean	0.208	0.208	$245.70	$245.70
N	2,542	2,529	2,520	2,507
R^2	0.051	0.046	0.051	0.046

NOTES: Weighted. All regressions control for adult child demographics. Reference category: two years pre supplemental year 2013. Parent-to-child and net transfers are omitted for brevity given statistical insignificance; see Appendix E for details. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

7. Limitations

My study conserves data employment and empirical exercises given broadly known power issues in the Panel Study of Income Dynamics (PSID).[23] Future studies employing richer data may extend these analyses to estimate heterogeneous effects because we reasonably expect these overall effects to differ by select demographic groups (e.g., racial, socioeconomic, and gender) and by parental relationship (e.g., mother or father; and biological, adoptive, step, or in-law).[24] Across most dimensions, I note that underrepresented minorities, less educated adult children, and women have lower savings. More educated adult children both transfer more money to parents while receiving more money from parents. Their net transfer is positive, suggesting that they receive more from their parents than they transfer to them. Relative to White and Asian-American prime-aged adult children, underrepresented minorities transfer more money to parents

[23] Please see the "Data" section for citations documenting PSID's relatively smaller sample sizes, especially for certain subgroups.

[24] I am unsure if the PSID captures foster parenting or categorizes foster parenting under "adoptive."

while receiving less money from parents. These statistics corroborate with previous findings and suggest that especially racial and socioeconomic heterogeneous effects of parental health shocks may exist.

This also means that I fail to condition levels on having a specific account or engaging in a specific transfer and to condition hospitalization duration on being hospitalized, whether manually or somewhat automatically via Tobit or other selection models. Selection models can sort out extensive versus intensive effects but require sufficient power.

Some parents have multiple hospitalizations, which could cloud the study in that they have or are developing chronic conditions or serious illnesses rather than experiencing a random health shock. Health shocks, broadly construed, assume physical health reasons but can also encompass mental health reasons. Importantly, hospitalization is only one form of health shock. Other catalysts may strongly induce financial transfers to parents, including disabling shocks. Disabling shocks or onsets of chronic illnesses (e.g., hypertension or diabetes) are more likely to occur once with permanent effects on one's labor supply, finances, and expenses. Hence, it may be fruitful to explore effects of parents' disabling shocks on adult children's financial planning and wealth accumulation.

I currently find that parental health shocks impact adult children's wealth accumulations some. To precisely time interplays between liquid and illiquid savings, future studies may extend these analyses to examine effects of parental health shocks on adult children's savings longitudinally. The cross-sectional setup of this *pseudo*-event study muddies if, for example, the child-to-parent transfer at supplemental year 2013 subsequently means decreased propensities and levels of retirement savings and near depletion of liquidity two years later as a function of days hospitalized. Assessing the longitudinal effects of parental health shocks on the longitudinal outcomes of adult children's savings may be ideal.

Researchers may further examine reference parents' spousal health shocks, which would consist of running separate regressions based on parents' spousal health shocks. Adult children may financially react differently if it is the reference parent versus the spousal parent experiencing the shock, especially because the spouse among most PSID couples are women.

One reacts to their own spouse's health shock, but not necessarily their parent's spouse's health shock.[25]

Child-to-parent transfers might importantly correlate with, if not secondhandedly reduce, adult children's savings in context of how parental shocks affect adult children's financial security. Although, any estimates regarding child-to-parent transfers are likely underestimates given general paucity. This general paucity is likely due to complex resources needed to ensure parents and adult children cooperate across multiple survey waves. These multiple survey waves should capture parent-child dyads that reflect current cultural, economic, and socioeconomic realities that might further affect child-to-parent transfer prevalence or stresses that child-to-parent transfers may collectively induce on all of today's prime-aged adults. Hence, more data collection may be required to thoroughly understand adult children as safety nets or as "retirement plans."

[25] Half of all marriages end in divorce, so one should not necessarily assume that the parent's spouse is also their parent.

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Appendix A. Sample Characteristics

VARIABLES	Mean	Median	Min	Max
Female	25%	—	—	—
Underrepresented minority	42%	—	—	—
Single (unmarried)	40%	—	—	—
Age (SD = 8.2 years)	36.5	35	25	54
Years of education completed (SD = 2.2 years)	13.8	14	0	17
Total family income, 2012 (SD = $105,862)	$74,660	$55,680	$(11,500)	$3,316,000
Parent ever hospitalized	56%	—	—	—
Parent ever permanently/temporarily disabled	23%	—	—	—
Parent ever permanently disabled	19%	—	—	—
Parent ever report drastic decline in health	25%	—	—	—
Age, reference parent (SD = 9.8 years)	62.8	62	40	99
Number of siblings (SD = 2.1 siblings)	2.6	2	0	19
Father's marital status: married to other parent	43%	—	—	—
Father's marital status: no spouse	18%	—	—	—
Father's marital status: new spouse	18%	—	—	—
Father [presumed] deceased	21%	—	—	—
Mother's marital status: married to other parent	43%	—	—	—
Mother's marital status: no spouse	38%	—	—	—
Mother's marital status: new spouse	11%	—	—	—
Mother [presumed] deceased	8%	—	—	—

Note: Unweighted. Percentages may not add up to 100 percent due to rounding.

Appendix B. Health Shock Prevalence by Year and Measure Method

	Incidence Within Year		Incidence Ever (Within Study Period)		Counts During Study Period		
	N	Mean	N	Mean	N	Mean	SD
Hospitalized:							
6 Years Prior	3,348	12%	3,383	27%	3,401	0.34	0.63
4 Years Prior	3,371	12%	3,386	32%	3,401	0.46	0.78
2 Years Prior	3,375	14%	3,400	39%	3,401	0.60	0.92
Year of Transfer	3,392	14%	3,401	44%	3,401	0.74	1.06
2 Years Post	3,153	16%	3,401	49%	3,401	0.89	1.19
4 Years Post	2,967	16%	3,401	53%	3,401	1.02	1.32
6 Years Post	2,751	15%	3,401	56%	3,401	1.15	1.43
Days Hospitalized:							
6 Years Prior	3,348	0.76	—	—	3,401	2.80	0.63
4 Years Prior	3,371	1.05	—	—	3,401	3.84	0.78
2 Years Prior	3,375	1.00	—	—	3,401	4.83	0.92
Year of Transfer	3,392	1.18	—	—	3,401	6.01	1.06
2 Years Post	3,153	1.51	—	—	3,401	7.40	1.19
4 Years Post	2,967	1.92	—	—	3,401	9.09	1.32
6 Years Post	2,751	1.50	—	—	3,401	10.30	1.43
Permanently/Temporarily Disabled:							
6 Years Prior	3,352	9%	3,383	12%	—	—	—
4 Years Prior	3,378	8%	3,386	13%	—	—	—
2 Years Prior	3,377	8%	3,400	15%	—	—	—
Year of Transfer	3,401	9%	3,401	18%	—	—	—
2 Years Post	3,155	10%	3,401	20%	—	—	—
4 Years Post	2,971	9%	3,401	22%	—	—	—
6 Years Post	2,754	10%	3,401	23%	—	—	—
Permanently Disabled:							
6 Years Prior	3,339	6%	3,379	10%	—	—	—
4 Years Prior	3,373	6%	3,386	12%	—	—	—
2 Years Prior	3,366	6%	3,397	13%	—	—	—
Year of Transfer	3,401	7%	3,401	15%	—	—	—
2 Years Post	3,103	8%	3,401	17%	—	—	—
4 Years Post	2,932	8%	3,401	18%	—	—	—
6 Years Post	2,690	8%	3,401	19%	—	—	—

Note: Unweighted and unconditional on trend completeness (i.e., answered question during each wave).

Appendix C. Detailed Financial Characteristics

	N	Mean	SD	Min	25th Pct	50th Pct	75th Pct	95th Pct	Max
Panel A: Overall									
Money from Parents	3,372	725.2	3,267	0	0	0	200	3,500	70,000
Money to Parents	3,376	245.7	1,196	0	0	0	0	1,200	36,000
Net Transfer	3,354	481.3	3,480	-36,000	0	0	0	3,000	70,000
IRA/Annuities	3,338	15,120	77,636	0	0	0	0	75,000	1.80E+06
Contributed to IRA	3,375	1,073	8,830	0	0	0	0	5,000	331,000
Cashed Out of IRA	3,395	331.2	3,095	0	0	0	0	0	72,000
Liquid Savings	3,401	12,767	53,792	-250	0	1,500	8,000	55,000	2.00E+06
Net Wealth (w/o Equity)	3,401	75,209	343,716	-1.99E+06	-1,500	7,000	39,000	391,000	7.93E+06
Net Wealth (w/Equity)	3,401	110,570	389,232	-1.84E+06	0	13,000	88,500	560,000	8.53E+06
Income	3,401	74,660	105,862	-11,500	28,310	55,680	97,050	184,400	3.32E+06
Panel B: Ever Hospitalized									
Money from Parents	1,891	632.5	2,949	0	0	0	150	3,000	70,000
Money to Parents	1,889	279.5	1,383	0	0	0	0	1,200	36,000
Net Transfer	1,877	355.8	3,278	-36,000	0	0	0	3,000	70,000
IRA/Annuities	1,866	18,284	93,458	0	0	0	0	80,000	1.800e+06
Contributed to IRA	1,890	1,232	10,963	0	0	0	0	5,000	331,000
Cashed Out of IRA	1,905	373.6	3,091	0	0	0	0	0	60,000
Liquid Savings	1,909	12,338	56,088	-250	0	1,200	7,500	55,000	2.000e+06
Net Wealth (w/o Equity)	1,909	82,228	334,412	-299,874	0	7,600	41,000	438,000	6.298e+06
Net Wealth (w/Equity)	1,909	120,871	381,117	-362,000	0	14,500	97,000	667,200	6.498e+06
Income	1,909	74,882	106,402	-11,500	26,045	55,800	98,000	190,000	3,222,000

Appendix D. Detailed Financial Characteristics by Parental Health Shock Indicator

		Amount of Money Transferred			Savings		Propensities			
		Parent-to-Child	Child-to-Parent	Net	Liquid Savings	IRAs/ Annuities	Child-to-Parent	Parent-to-Child	Liquid Savings	IRAs/ Annuities
Overall	—	$725.20	$245.70	$481.30	$ 12,767.00	$ 15,120.00	21%	28%	70%	19%
Hospitalized	No	$843.50	$202.80	$640.80	$ 13,316.00	$ 11,110.00	19%	29%	74%	18%
Hospitalized	Yes	$632.50	$279.50	*$355.80*	$ 12,338.00	***$ 18,284.00***	**23%**	28%	**67%**	19%
Disabled (v1)	No	$832.50	$208.20	$628.00	$ 15,446.00	$ 17,380.00	19%	29%	75%	22%
Disabled (v1)	Yes	**$369.90**	$370.60	**$(5.95)**	**$ 3,897.00**	***$ 7,710.00***	**28%**	24%	**52%**	**9%**
Disabled (v2)	No	$817.20	$212.90	$608.40	$ 15,023.00	$ 18,067.00	19%	29%	75%	22%
Disabled (v2)	Yes	**$340.60**	*$383.30*	**$(50.42)**	**$ 3,329.00**	**$ 2,933.00**	**28%**	**24%**	**50%**	**7%**
Self-Reported Decline	No	$795.00	$235.40	$560.50	$ 13,829.00	$ 16,627.00	20%	29%	73%	21%
Self-Reported Decline	Yes	*$513.30*	$277.10	*$240.00*	*$ 9,550.00*	**$ 10,611.00**	*23%*	*25%*	**61%**	**13%**

Note: Unweighted. Means are reported. (v1) is if a parent ever reported having a "permanent or temporary" disability, and (v2) is if a parent ever reported having a permanent disability. Self-Reported Decline is if a parent ever reported a dramatic decline in Likert scale from the classical self-reported health status measure, where a dramatic decline is at least two levels lower between the current and prior period. Differences are statistically significant at the 1 percent level (bold font), 5 percent level (bold italics), or 10 percent level (italics). T-tests were weighted.

Appendix E. Full Regression Results

Table E1. Demographic Associations and Average Marginal Effects of Parental Hospitalization on Adult Children's Retirement Savings from OLS Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	IRA or Annuity, Any				IHS (IRA or Annuity Levels)			
Hospitalization:	Any	Duration	Any	Duration	Any	Duration	Any	Duration
10 Years Pre			0.037	0.002			0.474	0.021
			(0.037)	(0.001)			(0.414)	(0.016)
8 Years Pre			0.019	-0.002			0.265	-0.015
			(0.031)	(0.002)			(0.336)	(0.021)
6 Years Pre	-0.028	-0.004*	-0.031	-0.004**	-0.426	-0.055**	-0.471	-0.062***
	(0.029)	(0.002)	(0.030)	(0.002)	(0.317)	(0.022)	(0.322)	(0.022)
4 Years Pre	0.054*	0.000	0.047	0.000	0.584	0.010	0.495	0.008
	(0.032)	(0.002)	(0.033)	(0.002)	(0.359)	(0.021)	(0.366)	(0.021)
0 Years Post	-0.024	-0.001*	-0.025	-0.001	-0.124	-0.010	-0.142	-0.009
	(0.030)	(0.001)	(0.030)	(0.001)	(0.337)	(0.007)	(0.339)	(0.007)
2 Years Post	-0.075***	-0.002*	-0.074***	-0.002*	-0.924***	-0.017*	-0.917***	-0.017*
	(0.027)	(0.001)	(0.027)	(0.001)	(0.295)	(0.010)	(0.294)	(0.010)
4 Years Post	-0.025	-0.001	-0.029	-0.001	-0.013	-0.004	-0.057	-0.005
	(0.029)	(0.001)	(0.030)	(0.001)	(0.327)	(0.012)	(0.330)	(0.012)
6 Years Post	-0.019	-0.002	-0.021	-0.001	-0.280	-0.016	-0.309	-0.016
	(0.026)	(0.001)	(0.027)	(0.001)	(0.284)	(0.011)	(0.285)	(0.011)
Woman	-0.098***	-0.101***	-0.099***	-0.100***	-1.145***	-1.183***	-1.160***	-1.179***
	(0.022)	(0.022)	(0.022)	(0.023)	(0.227)	(0.229)	(0.229)	(0.230)
Underrepresented Minority	-0.112***	-0.111***	-0.112***	-0.113***	-1.185***	-1.157***	-1.183***	-1.180***
	(0.018)	(0.018)	(0.018)	(0.018)	(0.181)	(0.183)	(0.180)	(0.180)
Highest Education Level	0.054***	0.055***	0.054***	0.054***	0.580***	0.590***	0.581***	0.588***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.048)	(0.048)	(0.048)	(0.048)
Age	0.005***	0.005***	0.005***	0.005***	0.068***	0.068***	0.066***	0.067***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.013)	(0.013)	(0.013)	(0.013)
Constant	-0.641***	-0.664***	-0.640***	-0.657***	-7.582***	-7.829***	-7.575***	-7.753***
	(0.081)	(0.081)	(0.081)	(0.081)	(0.888)	(0.892)	(0.889)	(0.887)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	IRA or Annuity, Any				IHS (IRA or Annuity Levels)			
Hospitalization:	Any	Duration	Any	Duration	Any	Duration	Any	Duration
Unconditional Mean	0.187	0.187	0.187	0.187	$15,120	$15,120	$15,120	$15,120
N	2,537	2,524	2,537	2,524	2,497	2,484	2,497	2,484
R^2	0.146	0.143	0.147	0.144	0.155	0.151	0.156	0.153

Note: Weighted. Reference category: 2 years pre supplemental year 2013. Columns (1) – (4) concern outcome propensities, and Columns (5) – (8) concern outcome levels. *p < 0.10, **p < 0.05, ***p < 0.01

Table E2. Demographic Associations and Average Marginal Effects of Parental Hospitalization on Adult Children's Liquidity from OLS Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Banked				IHS (Liquidity)			
Hospitalization:	Any	Duration	Any	Duration	Any	Duration	Any	Duration
10 Years Pre			0.032	0.002***			0.362	0.022***
			(0.032)	(0.001)			(0.310)	(0.007)
8 Years Pre			-0.042	0.002			-0.496	-0.045
			(0.038)	(0.004)			(0.359)	(0.038)
6 Years Pre	-0.041	-0.010**	-0.035	-0.011***	-0.575*	-0.115***	-0.512	-0.114***
	(0.037)	(0.004)	(0.037)	(0.004)	(0.334)	(0.031)	(0.336)	(0.034)
4 Years Pre	-0.010	-0.001	-0.016	-0.001	0.059	-0.001	-0.005	-0.002
	(0.033)	(0.002)	(0.034)	(0.002)	(0.314)	(0.017)	(0.323)	(0.017)
0 Years Post	-0.074*	0.000	-0.070*	0.000	-0.669*	-0.010	-0.625*	-0.008
	(0.039)	(0.003)	(0.038)	(0.003)	(0.358)	(0.020)	(0.354)	(0.020)
2 Years Post	-0.065*	-0.003***	-0.065*	-0.003***	-0.754**	-0.029***	-0.748**	-0.029***
	(0.033)	(0.001)	(0.033)	(0.001)	(0.311)	(0.008)	(0.310)	(0.008)
4 Years Post	-0.073**	-0.002*	-0.074**	-0.002*	-0.352	-0.018	-0.357	-0.018
	(0.033)	(0.001)	(0.033)	(0.001)	(0.316)	(0.012)	(0.318)	(0.012)
6 Years Post	-0.013	0.001*	-0.011	0.001**	-0.222	0.015*	-0.208	0.015*
	(0.029)	(0.001)	(0.029)	(0.001)	(0.263)	(0.008)	(0.262)	(0.008)
Woman	-0.077***	-0.077***	-0.075***	-0.077***	-1.232***	-1.239***	-1.211***	-1.224***
	(0.026)	(0.026)	(0.025)	(0.026)	(0.228)	(0.228)	(0.226)	(0.228)
Underrepresented Minority	-0.268***	-0.273***	-0.269***	-0.274***	-2.489***	-2.508***	-2.497***	-2.539***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.257)	(0.257)	(0.258)	(0.258)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Banked				IHS (Liquidity)			
Hospitalization:	Any	Duration	Any	Duration	Any	Duration	Any	Duration
Highest Education Level	0.048***	0.049***	0.048***	0.049***	0.684***	0.693***	0.679***	0.690***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.044)	(0.044)	(0.044)	(0.044)
Age	0.002	0.002	0.002	0.001	0.041***	0.038***	0.041***	0.037***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.012)	(0.012)	(0.012)	(0.012)
Constant	0.142	0.115	0.150*	0.118	-2.996***	-3.216***	-2.911***	-3.129***
	(0.087)	(0.088)	(0.088)	(0.088)	(0.808)	(0.809)	(0.809)	(0.808)
Unconditional Mean	0.699	0.699	0.699	0.699	$12,767	$12,767	$12,767	$12,767
N	2,536	2,523	2,536	2,523	2,542	2,529	2,542	2,529
R^2	0.216	0.211	0.217	0.213	0.300	0.298	0.302	0.301

Note: Weighted. Reference category: 2 years pre supplemental year 2013. Columns (1) – (4) concern outcome propensities, and Columns (5) – (8) concern outcome levels. *p < 0.10, **p < 0.05, ***p < 0.01

Table E3. Demographic Associations and Average Marginal Effects of Parental Hospitalization on Adult Children's Financial Transfers to Parents from OLS Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Child-to-Parent Transfer, Any				IHS (Amount Transferred to Parents)			
Hospitalization:	Any	Duration	Any	Duration	Any	Duration	Any	Duration
10 Years Pre			-0.007	-0.002***			-0.003	-0.015***
			(0.035)	(0.001)			(0.260)	(0.004)
8 Years Pre			0.088**	0.005*			0.615**	0.036*
			(0.036)	(0.003)			(0.253)	(0.022)
6 Years Pre	0.086**	0.008	0.074**	0.007	0.595**	0.060	0.510*	0.058
	(0.036)	(0.005)	(0.035)	(0.005)	(0.264)	(0.038)	(0.260)	(0.039)
4 Years Pre	0.026	-0.000	0.027	-0.000	0.210	-0.000	0.209	0.001
	(0.034)	(0.001)	(0.035)	(0.001)	(0.249)	(0.005)	(0.256)	(0.006)
0 Years Post	0.069**	-0.000	0.061*	-0.000	0.525**	0.002	0.471*	0.001
	(0.034)	(0.002)	(0.034)	(0.002)	(0.256)	(0.013)	(0.256)	(0.013)
2 Years Post	-0.011	0.001	-0.011	0.001	0.003	0.010	0.003	0.010
	(0.029)	(0.001)	(0.029)	(0.001)	(0.213)	(0.010)	(0.215)	(0.010)
4 Years Post	-0.018	-0.001**	-0.021	-0.001**	-0.109	-0.007**	-0.136	-0.007*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Child-to-Parent Transfer, Any				IHS (Amount Transferred to Parents)			
Hospitalization:	Any	Duration	Any	Duration	Any	Duration	Any	Duration
	(0.029)	(0.000)	(0.029)	(0.000)	(0.213)	(0.003)	(0.214)	(0.004)
6 Years Post	0.007	-0.000	0.003	-0.000	0.014	-0.003	-0.014	-0.003
	(0.027)	(0.001)	(0.027)	(0.001)	(0.194)	(0.004)	(0.194)	(0.004)
Woman	-0.034	-0.032	-0.038*	-0.033	-0.298*	-0.281*	-0.328**	-0.293*
	(0.023)	(0.023)	(0.023)	(0.023)	(0.160)	(0.159)	(0.160)	(0.159)
Underrepresented Minority	0.170***	0.172***	0.171***	0.175***	1.216***	1.226***	1.226***	1.249***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.189)	(0.187)	(0.189)	(0.187)
Highest Education Level	0.011**	0.010**	0.011**	0.010**	0.089***	0.085***	0.094***	0.087***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.033)	(0.032)	(0.032)	(0.032)
Age	-0.002*	-0.002	-0.002*	-0.002	-0.012	-0.008	-0.012	-0.008
	(0.001)	(0.001)	(0.001)	(0.001)	(0.008)	(0.008)	(0.008)	(0.008)
Constant	0.044	0.049	0.033	0.040	-0.018	0.023	-0.095	-0.040
	(0.084)	(0.083)	(0.084)	(0.084)	(0.604)	(0.597)	(0.604)	(0.600)
Unconditional Mean	0.208	0.208	0.208	0.208	$245.70	$245.70	$245.70	$245.70
N	2,542	2,529	2,542	2,529	2,520	2,507	2,520	2,507
R^2	0.051	0.046	0.057	0.049	0.051	0.046	0.057	0.050

Note: Weighted. Reference category: 2 years pre supplemental year 2013. Columns (1) – (4) concern outcome propensities, and Columns (5) – (8) concern outcome levels. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$

Table E4. Demographic Associations and Average Marginal Effects of Parental Hospitalization on Adult Children's Financial Transfers from Parents from OLS Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Parent-to-Child Transfer, Any				IHS (Amount Received from Parents)			
Hospitalization:	Any	Duration	Any	Duration	Any	Duration	Any	Duration
10 Years Pre			-0.067*	0.000			-0.434	-0.001
			(0.039)	(0.001)			(0.306)	(0.009)
8 Years Pre			-0.040	-0.001			-0.343	-0.010
			(0.038)	(0.003)			(0.269)	(0.023)
6 Years Pre	-0.035	-0.002	-0.028	-0.002	-0.278	-0.019	-0.223	-0.017
	(0.038)	(0.003)	(0.038)	(0.004)	(0.284)	(0.022)	(0.286)	(0.024)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Parent-to-Child Transfer, Any				IHS (Amount Received from Parents)			
Hospitalization:	Any	Duration	Any	Duration	Any	Duration	Any	Duration
4 Years Pre	0.074*	0.004*	0.086**	0.004*	0.616**	0.036*	0.698**	0.036*
	(0.039)	(0.002)	(0.040)	(0.002)	(0.301)	(0.021)	(0.305)	(0.022)
0 Years Post	0.025	-0.000	0.028	-0.000	0.027	-0.007	0.056	-0.006
	(0.039)	(0.002)	(0.039)	(0.002)	(0.279)	(0.011)	(0.279)	(0.011)
2 Years Post	-0.058*	0.001	-0.059*	0.001	-0.415	0.014	-0.423*	0.014
	(0.035)	(0.002)	(0.035)	(0.002)	(0.256)	(0.014)	(0.255)	(0.014)
4 Years Post	0.010	-0.002*	0.016	-0.002*	0.017	-0.014**	0.064	-0.014**
	(0.037)	(0.001)	(0.037)	(0.001)	(0.267)	(0.007)	(0.267)	(0.007)
6 Years Post	0.050	-0.000	0.054	-0.000	0.426*	-0.003	0.454*	-0.003
	(0.034)	(0.001)	(0.034)	(0.001)	(0.253)	(0.011)	(0.253)	(0.011)
Woman	0.018	0.017	0.020	0.017	0.109	0.099	0.127	0.103
	(0.029)	(0.029)	(0.029)	(0.029)	(0.211)	(0.214)	(0.211)	(0.214)
Underrepresented Minority	-0.029	-0.024	-0.029	-0.025	-0.452**	-0.417**	-0.456**	-0.419**
	(0.028)	(0.028)	(0.028)	(0.028)	(0.193)	(0.194)	(0.193)	(0.195)
Highest Education Level	0.028***	0.029***	0.028***	0.029***	0.233***	0.238***	0.232***	0.237***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.042)	(0.041)	(0.041)	(0.041)
Age	-0.007***	-0.007***	-0.007***	-0.007***	-0.051***	-0.049***	-0.049***	-0.049***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.011)	(0.011)	(0.011)	(0.011)
Constant	0.164	0.157	0.164	0.157	0.859	0.769	0.868	0.774
	(0.101)	(0.101)	(0.101)	(0.101)	(0.741)	(0.736)	(0.739)	(0.736)
Unconditional Mean	0.291	0.291	0.291	0.291	$843.50	$843.50	$843.50	$843.50
N	2,542	2,529	2,542	2,529	2,521	2,508	2,521	2,508
R^2	0.046	0.045	0.049	0.045	0.051	0.051	0.053	0.052

Note: Weighted. Reference category: 2 years pre supplemental year 2013. Columns (1) – (4) concern outcome propensities, and Columns (5) – (8) concern outcome levels. *p < 0.10, **p < 0.05, ***p < 0.01

Table E5. Demographic Associations and Average Marginal Effects of Parental Hospitalization on Net Transfers from OLS Regressions

	(1)	(2)	(3)	(4)
	IHS (Net Transfer)			
Hospitalization:	Any	Duration	Any	Duration
10 Years Pre			-0.269	0.017*
			(0.400)	(0.009)
8 Years Pre			-1.142***	-0.051
			(0.374)	(0.034)
6 Years Pre	-0.732*	-0.065	-0.568	-0.061
	(0.410)	(0.044)	(0.405)	(0.047)
4 Years Pre	0.483	0.038*	0.536	0.037
	(0.423)	(0.023)	(0.433)	(0.023)
0 Years Post	-0.670	-0.008	-0.569	-0.005
	(0.419)	(0.021)	(0.417)	(0.020)
2 Years Post	-0.494	0.004	-0.501	0.004
	(0.349)	(0.023)	(0.350)	(0.023)
4 Years Post	0.187	-0.006	0.258	-0.006
	(0.353)	(0.007)	(0.351)	(0.007)
6 Years Post	0.431	-0.002	0.492	-0.002
	(0.330)	(0.011)	(0.329)	(0.011)
Woman	0.377	0.343	0.433	0.360
	(0.271)	(0.270)	(0.270)	(0.270)
Underrepresented Minority	-1.936***	-1.926***	-1.954***	-1.955***
	(0.270)	(0.270)	(0.268)	(0.270)
Highest Education Level	0.173***	0.183***	0.166***	0.180***
	(0.054)	(0.054)	(0.054)	(0.054)
Age	-0.054***	-0.054***	-0.052***	-0.055***
	(0.014)	(0.014)	(0.014)	(0.014)
Constant	1.063	0.920	1.189	1.000
	(0.988)	(0.978)	(0.981)	(0.978)
Unconditional Mean	$640.80	$640.80	$640.80	$640.80
N	2,504	2,491	2,504	2,491
R^2	0.067	0.065	0.074	0.067

Note: Weighted. Reference category: 2 years pre supplemental year 2013. Net transfers equal the amount in parent-to-child transfers minus the amount in child-to-parent transfers. A negative net transfer means that the adult child transferred more to the parent than the parent transferred to the adult child. *p < 0.10, **p < 0.05, ***p < 0.01

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