

# Senior Health and Life Expectancy: The Role of Attentive Children

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## **1 Introduction**

As the population ages and more pressure is placed on health care systems in North America, policy makers are reconsidering the role of family members in helping seniors manage their health. We might expect that seniors' contact with their adult children will play a role in seniors' health management. When children visit their parents they may notice health issues that require attention - are their parents taking their medications, do they need to visit a doctor, do they need some assistance around the home? The importance of attentive children may differ across the wealth distribution. For example, wealthier seniors may have better access to health and other services in their home, purchased through the private sector, that can act as a substitute for attentive children. In this study we evaluate the impact of seniors' contact with their adult children on health outcomes. To the authors' knowledge the connection between family interactions and health outcomes has not been investigated

before.<sup>1</sup>

A connection between health and attentive children may also help to explain why recessions appear to be good for seniors' health. A large literature in the United States has found a positive correlation between mortality rates and unemployment rates (including Ruhm (2000), Gerdtham and Ruhm (2006) , Ruhm (2003)), with significant effects for seniors ( Miller et al. (2009)). We would not expect seniors to be directly affected by a recession, as most are not part of the labour force and incomes are relatively fixed over the business cycle. Rather, there are 'externalities' associated with the business cycle. We might expect that adult children, more likely unemployed during a recession, will be more likely to contact their parents. Not only do they have more time on their hands if unemployed, they might be reducing their consumption of other leisure time activities.

In this study, we use data from the Health and Retirement Study, a longitudinal survey of near-retirees and seniors in the United States. As health outcomes, we focus on life expectancy, the likelihood of dying within one year, self-reported health status, and measures of ability and depression. From this survey we are also able to see how often adult children contact their parents, as well as several characteristics of those children. We are also able to observe the income, demographics, and some measures of wealth for respondents to this survey.

Our results indicate important relationships between health outcomes and contact with adult children. Estimates suggest that extra contact with adult children may have such a large effect that one extra contact per month could offset the effect of aging by one year or more on morality, life expectancy, and the likelihood of having poor health.

The paper is laid out as follows. We begin in section 2 by describing the Health and Retirement Study and the sample used here. In section 3 we explain how we model the effect of contact on health outcomes, including our efforts to deal with the endogeneity of contact. We then discuss our results. Finally, we offer some discussion and concluding

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<sup>1</sup>We have found some studies connecting social interactions and cognitive functioning, which in turn will affect mortality.

remarks.

## 2 Data

The main data source for this study is the US Health and Retirement Study (HRS).<sup>2</sup> This is a longitudinal survey in which sampled individuals are followed until they exit the sampling frame (that is, they die or disappear). There are currently five cohorts of individuals in the HRS (1992-2008), with respondents interviewed every two years. The oldest cohort is the AHEAD cohort, first sampled in 1993 as individuals born 1923 or earlier. The next oldest cohort is the CODA (children of the depression age) born 1924 to 1930 and first sample (as well as their spouses) in 1998. The original cohort (HRS) was born 1931-1941 and first sampled in 1992 (as well as their spouses). The War Babies, born 1942-1947, were first sampled in 1998 (their spouses were not). Finally, the Early Baby Boomers were first sampled in 2004 as those born 1948-1953. Generally, the sampling frame is designed to ensure there is always a representative sample of individuals in their early 50s approaching retirement age.

Our starting point for sampling is the RAND HRS Data file. These files provide a longitudinal data set with core variables asked consistently across waves of the HRS. This file is used to define core demographic variable, household income, and indicators of self-reported health status, depression measures, and activity limitations.

Conveniently, the month and year of an individual's birth is recorded and I make use of this in defining age. The date of the interview is also recorded and is used when defining age as well as the time a person has left before death. Household income is stated in 2002 dollars.<sup>3</sup> Most variables are self-explanatory.

The exit files are completed each wave and are surprisingly complete. In these files, a person's year and month of death are recorded. Although it may take 2 waves before finding

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<sup>2</sup>See [http://hrsonline.isr.umich.edu/sitedocs/databook/HRS\\_Text\\_WEB.intro.pdf](http://hrsonline.isr.umich.edu/sitedocs/databook/HRS_Text_WEB.intro.pdf) for a nice overview of the HRS.

<sup>3</sup>Given some extreme outliers in the data, we have winsorized household income at \$150,000.

out a person has become deceased, we can link the death records easily to the RAND file. We use this to measure the time a person has until they die, which is the difference between the date of death and their current interview date. When death has not occurred before the end of the 2008 exit interviews, we record time left as the difference between the 2008 interview date in the RAND file and their current interview date.

Other HRS files are more complex with important variables changing over time. The family structure ‘member child’ files contain information on all children, step-children and children-in-law of the individual or his/her spouse. Each child has a separate record, with information on their work status and contact with their parents recorded. Contact is asked in a general way so that individuals can respond with the number of times per unit of time that they choose (allowing for per day, week, 2 weeks, month, or year). Contact is recoded to represent the number of contacts per month. Contacts can include a visit, phone call, or email.<sup>4</sup> The questions regarding contact are consistent starting in 1998. However, only new respondents to the survey are asked about contact in 1998 and 2006. This is the main reason we focus our analysis on the HRS waves for 2000, 2002, and 2004.

The family structure ‘household’ files have one observation per child associated with a household in the HRS. From this file, we can obtain information on whether there has been a new grandchild introduced since the previous wave and we know which child had the grandchild.

To summarize, our main sample uses observations from the years 2000, 2002, and 2004. After excluding observations with missing information, and restricting our sample to those age 50-75, we are left with 116504 observations (at the individual-child-year level), representing 10,630 different households.

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<sup>4</sup>There were some odd responses that were obviously miscoded. For example, an individual reports contact 356 times per day. Rather than making judgement on a case by case basis, we have winsorized contact at 40 contacts per month. 99% of the contacts are less than or equal to 30 times per month.

## 2.1 Descriptive Statistics

We first check whether the mortality rates based on this survey are reasonably representative of the population. In Figure 1 we present the mortality rates for the broad RAND sample, our main sample from 2000-2004, and the population mortality rates for the US in 2005. Our data represent the mortality rates of those age 50-75 reasonably well. Over age 75, we can see some divergence between the mortality rates from the US Life Tables and our RAND sample. This is likely due to sample attrition and is the main reason we restrict our sample to those under age 75.<sup>5</sup>

Individual characteristics are reported in Table 1. The average age in our sample is 62, with fewer men than women as expected. Most individuals are coming from the HRS and War Babies cohorts. The average household income is just over \$58,000 (in \$2002), which is in line with mean incomes reported by the Census Bureau.<sup>6</sup> Education levels are also in line with estimates for the population.<sup>7</sup>

The sample is relatively young, and the mortality rates and health outcomes that reflect this. The IADL, for example, represent the number of activities of daily living (using the phone, handling money, medication, shopping, and meals) that individuals have difficulty with. An average score of 0.15 indicates few people in the sample have difficulties. The portion of individuals reporting poor health is only 7 percent.

The average number of living children is 3.38, in line with what we might expect given historical fertility rates. The characteristics of these children are in Table 2 . On average, an adult child contacts their parents 10 times per month. At an average age of 35, they have 1.53 children (which does not represent completed fertility). At any point in time, 10 percent of these children are producing grandchildren. Other information (reported by

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<sup>5</sup>An investigation of the data suggests we are unable to observe less than one percent of deaths. That is, we are unable to see why those individuals have not responded in the sample by 2008.

<sup>6</sup>The US Census Bureau report 2002 average incomes of households headed by 55-64 year olds at \$64,000 and for households headed by individuals age 65+ mean income is \$34,415. See <http://www.census.gov/hhes/www/income/data/historical/household/index.html> , Table H10. All Races.

<sup>7</sup>In 2009, 25% of 50-74 year olds had college degrees (representing a Bachelor's degree or better). See <http://www.census.gov/hhes/socdemo/education/data/cps/2009/tables.html>

the respondent, not the child) for work status and income may be less reliable and is not known for all children. The employment rates (representing both sexes) are much higher than we might expect in the population where employment rates are typically in the low 60s. Unfortunately we are only provided categorical information regarding a child's income and there are high rates of non-response.

### **3 The Effect of Contact with Adult Children**

Quite intuitively, we can expect seniors' health to improve when adult children spend time with their parents. We expect an improvement in mental health (ie reductions in depression) that might be associated with loneliness. We would also expect better health management as children may notice a parent's need to visit a doctor, pay attention to medications, or make improvements around their home such as helping with meals or fixing hazards like broken steps. This seems like a simple enough relationship, but it might be difficult to measure.

Our main concern is with the direction of causality. It could be the case that senior parents who are very ill with a short expected time remaining in life will have children visiting more often precisely because of their poor health. This would result in a negative bias in any estimated effect of contact on health outcomes.

For this reason, we seek to identify the effect of adult child contact on senior parent's health by relying on variation in contact due to the introduction of new grandchildren to the family. The introduction of new grandchildren tends to increase the amount of contact with grandparents. We think it is reasonable to assume that the timing of fertility is not determined by the current health of a senior parent. While the stock of grandchildren at any point in time may be related to the overall health of a grandparent, as (for example) more elderly seniors are likely to have more grandchildren with age, it is unlikely that the introduction of a new grandchild will significantly affect a seniors' health or life expectancy. While there are many anecdotes of grandparents 'waiting to die' until after they meet their

grandchild, there is no evidence to support such phenomenon. Another consideration is the possibility of child-care provided by grandparents, which would affect fertility decisions. We expect that grandparents' health would affect total fertility but are doubtful this could affect the timing of fertility in a substantial way. Overall, we expect the birth of a new grandchild should only affect health through the resulting extra contact with seniors.

### 3.1 The Model

The general form of the econometric model may be stated as

$$H_i^* = f(C_{ic}, X_i) \tag{1}$$

$$C_{ic} = f(\text{New Grandchildren}_{ic}, X_i) \tag{2}$$

We first estimate the effect of contact on the amount of time a person has left before death. This is best modelled as a duration model with censored durations. We have chosen to use a Cox Proportional Hazard model, as the literature would suggest this is the simplest and most reasonable way to approach our problem. The Cox PH model is a semi-parametric method with a flexible specification while requiring very few distributional assumptions. Given we lack a formal theoretical model in this study, we are reluctant to place much structure on the econometric model. Also, the Cox PH model easily deals with the censored observations, where the censored value is not the same for all individuals. This makes the model easier to build and easier to interpret than a standard Tobit model.<sup>8</sup>

The Cox PH model, however, does not easily accommodate endogenous regressors. We expect the endogeneity of contact to be an important consideration here. While we are aware of econometricians working on this problem, an appropriate estimator is not available.<sup>9</sup> As a

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<sup>8</sup>Some early work was done with a Tobit and IV-tobit, with similar qualitative results.

<sup>9</sup>For example, Tiemen Woutersen at John Hopkins University is working on his project "Estimating the hand of the past: New Estimators for Duration Models with Endogenous Regressors and Endogenous Censoring." See <http://www.econ.jhu.edu/people/woutersen/>. The existing unobserved heterogeneity literature for this model is more concerned that the baseline hazard differs across the population on an unobserved dimension so that some observations have a constant and low hazard while others have constant high haz-

rough approximation, we estimate a two-stage version of the Cox PH model. We use OLS to estimate a first stage regression of contact (at the child level) as it depends on the presence of new grandchildren (also at the child level). As discussed in the next section, the presence of new grandchildren proves to be a good predictor of contact, raising contact by (typically) 3 times per month.

We are encouraged by the general consensus that linear models can be very informative as an approximation and also work with a linear model and instrumental variables. A simple linear model is applied for estimating the effect of contact on the time left before death, depression (an index based on a series of questions, on a scale of 1 to 8), the reporting of poor health, and the activity limitation index (IADL). In all estimates, we cluster our standard errors at the individual level. We use a probit model and IV probit to estimate the event of death within one year. In all cases we control for household income, age of the respondent, education of the respondent, the number of living children, sex, cohort, and geography (coded as 9 census divisions).

## 3.2 Results

As a starting point, consider the estimates in Table 3. In the first column we provide OLS estimates for the effect of contact on the number of months before an individual dies (or is observed in their last interview). Here, having more contact has a small but significant effect on life expectancy. Household income, age and gender are also significant determinants of life expectancy. In the second column, we provide IV estimates. The effect of contact with children becomes much larger, with estimates suggesting one more contact per month is associated with a 0.59 month increase in life expectancy (representing just over 2 weeks). The Cox Proportional Hazard estimates in the third and fourth columns tell much the same story. Without controlling for the endogeneity of contact, contact appears to have little, if

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ards. Their aggregation create a hazard that artificially represents some time dependence. This type of unobserved heterogeneity is not much of a concern for this study as the likelihood of dying is obviously time dependent for all observations.



any, effect on the likelihood of dying (ie. the hazard that an individual's time left in life ends). Using the IV-Cox PH model, we find the hazard decreases by nearly 5% for each contact with adult children.

The estimates in Table 5 tell much the same story, examining the likelihood of dying within one year. Without instrumenting for contact, contact with children does not appear to be an important determinant of mortality. Once instrumented, contact has a substantial and significant effect. One extra contact per month has a large enough effect that it can offset the effects on mortality of adding one year to age!

The effect of contact on depression and the likelihood of being in poor health, presented in Table 6, is similar. Extra contact with reduces depression (by 0.01 on an 8 point scale). Extra contact will reduce the likelihood of poor health by 2 percentage points, a large effect given only 7 percent of the sample reported poor health. Contact does not have an effect on activity limitations.

We would like to consider the quality of contact, expecting that children living closer to their parents are more likely visiting in person while those farther away are phoning or emailing. In Table 7 we account for whether children live within ten miles. Whether children live within ten miles appears to be an important determinant of life expectancy. However, the interaction of contact with an indicator for living within ten miles does not reduce the hazard of dying.

Finally, we would like to consider whether the effect of contact varies across the wealth distribution. I use a measure of pension wealth from Social Security (at the normal retirement age) as a proxy for wealth, placing individuals into each quartile of the wealth distribution. The results are presented in Table 8. Perhaps counterintuitively, extra contact does not appear to have a significant impact on life expectancy at the lowest end of the wealth distribution. In contrast, for individuals with wealth above the 25th percentile, extra contact has large and significant effects - reducing the hazard of dying by 7-8 percent. For the middle wealth group, one extra contact is enough to offset the effect of aging by two

years. Interesting to note, the effect of age is much larger at the top end of the wealth distribution. An investigation of other measures of wealth is warranted before interpreting this result.

## 4 Concluding Remarks

Our preliminary results provide strong evidence suggesting that extra contact with adult children can increase life expectancy and improve health outcomes. Estimates suggest individual could live more than two weeks longer if their children visited them just one more time per month. The general results suggest that extra contact with adult children may help offset the effects of aging on mortality and health.

Further investigation of the data is required before we can form conclusions about the mechanisms underlying this relationship. In theory, we can expect this result as extra contact with adult children might result in better health management.

Can we use this result to help explain the procyclicality of mortality rates? Table 9 helps us make a loose connection. We can see that adult children less likely to work tend to have more contact with their parents. We can also see that individuals having children are more likely to contact their parents, and other studies have shown that some women (white and less educated, see Dehejia and Muney (2004)) are more likely to have children during a recession. This also requires further investigation.

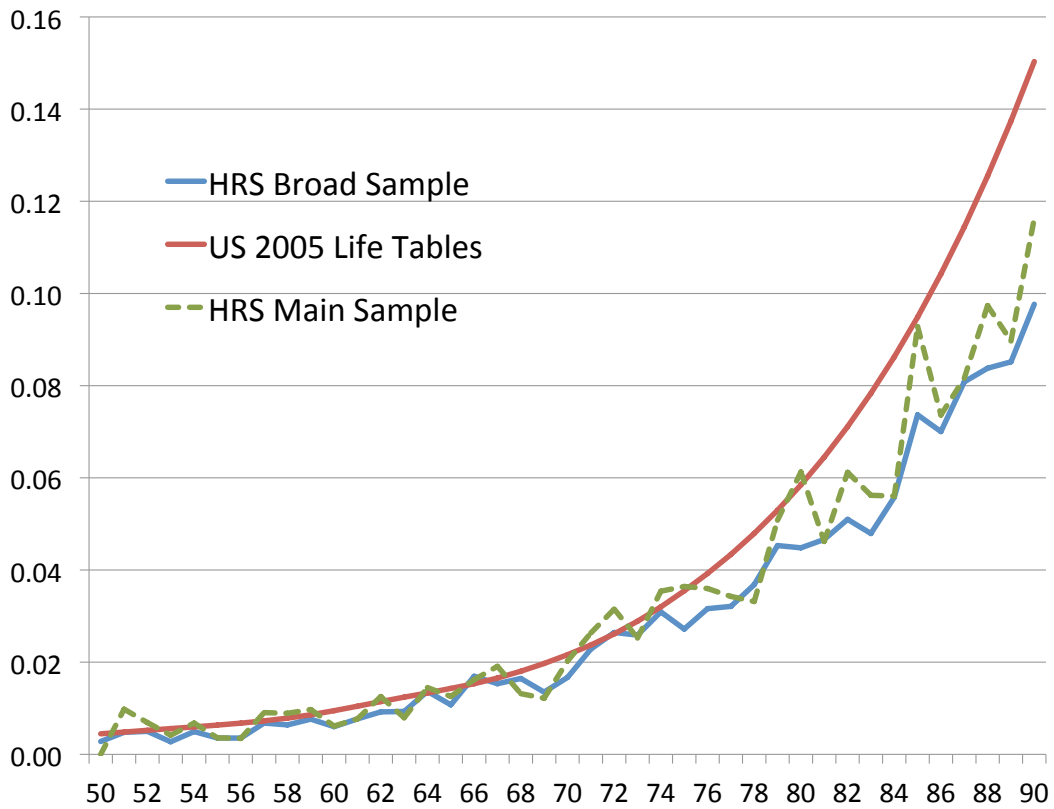


Figure 1: Mortality rates - total population. US 2005 Life Tables data is taken from the National Vital Statistics Reports, 2010, representing the total population. The broad sample includes any individuals in the RAND files for which we have death information. The main sample represents that described in the text for the years 2000, 2002, and 2004.

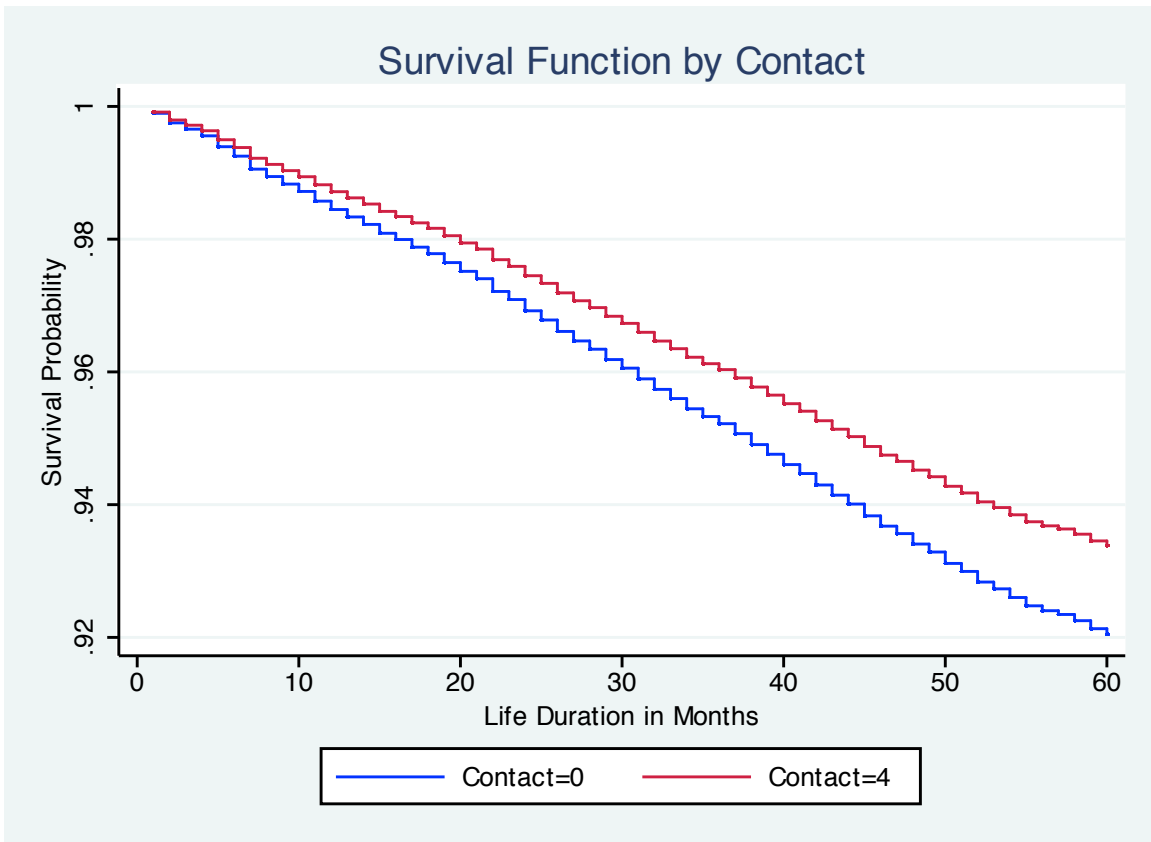


Figure 2: Survival Function Estimates by Number of Contacts

Table 1: Individual Characteristics, Main Sample

Age	62.2	# Living Children	3.38
Male	44.5%		
Married	75.8%	Time left (months observed)	41.9
Widowed	10.1%	Die in one year	1.2%
Household Income	58106		
		CES-D	1.415
Education		IADL	0.154
Less than HS	18.0	Self-reported Health	
GED	4.9	excellent	14.7
HS Graduate	32.1	very good	32.0
Some college	23.0	good	30.3
College and above	21.9	fair	16.1
Cohort		poor	7.0
Ahead	2.0		
CODA	7.3	2004 Social Security Wealth	
HRS	51.2	at 62	128051
War Babies	30.3	at 65	141663
Early Boomers	9.2	at 70	145865

Table 2: Child Characteristics.

Contact per month	10.33	Family Income	
Age	35.68	Under 10,000	7.8
Number of children	1.53	10-35,000	20.02
New Grandchild	10%	Over 35,000	40.53
Works Full Time	76.08	2002 & 2004	
Works Part Time	8.33	Sons	46.07
Not Working	15.58	Daughters	53.93

Table 3: Dependent Variable: Months left before death

	OLS	OLS	IV	Cox-PH	IV-Cox
Contacts	0.039 (0.010)	0.030 (0.010)	0.591 (0.117)	-0.002 (0.002) [0.998]	-0.048 (0.016) [0.953]
Hhld Income		0.00003 (0.000)	0.00003 (0.000)	-0.00001 (0.000)	-0.00001 (0.000)
Age		-1.331 (0.050)	-1.353 (0.050)	0.039 (0.007)	0.040 (0.007)
Education					
GED		0.541 (0.836)	1.728 (0.874)	-0.068 (0.161)	-0.163 (0.165)
High School		1.175 (0.511)	2.020 (0.543)	-0.215 (0.088)	-0.284 (0.090)
Post-sec		0.122 (0.536)	1.473 (0.606)	-0.095 (0.104)	-0.204 (0.108)
University		0.771 (0.579)	2.641 (0.696)	-0.106 (0.107)	-0.258 (0.116)
# Living Kids		-0.103 (0.097)	0.298 (0.127)	0.030 (0.016)	-0.002 (0.020)
Male		-0.602 (0.326)	-0.053 (0.348)	0.696 (0.069)	0.652 (0.070)
Constant	82.4 (0.204)	180.5 (4.010)	174.3 (4.311)		
Cohort FE	no	yes	yes	yes	yes
Geog. FE	no	yes	yes	yes	yes

Robust standard errors, clustered at the household level, are in parentheses. Cox-PH coefficients are presented, with the hazard ratio for contact in square brackets. Specifications include a set of indicators for cohort and census division.

Table 4: First Stage OLS Results for Contact

New Grandkid	2.990	(0.113)
Hhld Income	0.000	(0.000)
Age	0.052	(0.008)
GED	-2.087	(0.154)
HS Grad.	-1.532	(0.095)
Some College	-2.441	(0.106)
College	-3.390	(0.119)
# Living Children	-0.705	(0.014)
Male	-1.020	(0.069)
Constant	10.015	(0.637)

Robust standard errors, clustered at the household level, are in parentheses. Specifications include a set of indicators for cohort and census division.

Table 5: Dependent Variable: Death within one year of interview

	OLS	IV	Probit	IV-Probit
Contacts	-0.00004 (0.0000)	-0.0011 (0.0004)	-0.0009 (0.0013)	-0.0392 (0.0145)
Hhld Income	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Age	0.0009 (0.0002)	0.0009 (0.0002)	0.0267 (0.0056)	0.0282 (0.0056)
Education				
GED	-0.0075 (0.0039)	-0.0097 (0.0039)	-0.1664 (0.1003)	-0.2479 (0.1023)
High School	-0.0061 (0.0026)	-0.0077 (0.0026)	-0.1128 (0.0617)	-0.1715 (0.0633)
Post-sec	-0.0037 (0.0027)	-0.0063 (0.0028)	-0.0350 (0.0674)	-0.1277 (0.0735)
University	-0.0076 (0.0026)	-0.0111 (0.0028)	-0.1842 (0.0761)	-0.3121 (0.0866)
# Living Kids	0.0006 (0.0004)	-0.0002 (0.0005)	0.0123 (0.0095)	-0.0152 (0.0137)
Male	0.0108 (0.0018)	0.0098 (0.0018)	0.3334 (0.0494)	0.2961 (0.0518)
Constant	-0.0307 (0.0167)	-0.0191 (0.0172)	-3.7473 (0.4490)	-3.3234 (0.4768)
Cohort FE	yes	yes	yes	yes
Geog. FE	yes	yes	yes	yes

Robust standard errors, clustered at the household level, are in parentheses. Probit coefficients are presented. Specifications include a set of indicators for cohort and census division.

Table 6: Other Health Outcomes

	CES-D	CES-D	IADL	IADL	Poor Health	Poor Health
	OLS	IV	OLS	IV	Probit	IV-Probit
Contacts	0.0010 (0.0010)	-0.0131 (0.0094)	0.0003 (0.0003)	-0.0009 (0.0027)	0.0024 (0.0009)	-0.0246 (0.0099)
Hhld Income	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Age	-0.0233 (0.0039)	-0.0226 (0.0039)	0.0024 (0.0013)	0.0024 (0.0013)	-0.0002 (0.0042)	0.0008 (0.0042)
Education						
GED	-0.3484 (0.0983)	-0.3768 (0.1005)	-0.1227 (0.0325)	-0.1254 (0.0331)	-0.1892 (0.0749)	-0.2462 (0.0807)
High School	-0.6846 (0.0572)	-0.7054 (0.0587)	-0.1839 (0.0187)	-0.1858 (0.0190)	-0.4397 (0.0452)	-0.4808 (0.0480)
Post-sec	-0.7368 (0.0614)	-0.7696 (0.0637)	-0.1500 (0.0206)	-0.1530 (0.0209)	-0.3771 (0.0519)	-0.4424 (0.0558)
University	-0.8800 (0.0597)	-0.9249 (0.0658)	-0.1465 (0.0194)	-0.1507 (0.0210)	-0.5664 (0.0662)	-0.6560 (0.0718)
# Living Kids	0.0077 (0.0093)	-0.0022 (0.0111)	0.0099 (0.0035)	0.0091 (0.0038)	0.0083 (0.0074)	-0.0108 (0.0100)
Male	-0.2794 (0.0347)	-0.2980 (0.0375)	-0.0041 (0.0121)	-0.0053 (0.0124)	0.0498 (0.0345)	0.0228 (0.0364)
Constant	4.1146 (0.3140)	4.2546 (0.3292)	0.1870 (0.1157)	0.2007 (0.1208)	-0.9767 (0.3300)	-0.6724 (0.3531)
Cohort FE	yes	yes	yes	yes	yes	yes
Geog. FE	yes	yes	yes	yes	yes	yes

Robust standard errors, clustered at the household level, are in parentheses. Probit coefficients are presented. Specifications include a set of indicators for cohort and census division.



Table 7: Dependent Variable: Months left before death

	OLS	IV	Cox-PH	IV-Cox
Contacts	0.021 (0.013)	1.030 (0.260)	-0.002 (0.002)	-0.053 (0.019)
Ten Miles	-1.311 (0.389)	7.106 (2.206)	-0.007 (0.057)	0.479 (0.178)
Contact* Ten Miles	-0.020 (0.019)	-1.005 (0.255)	-0.002 (0.003)	-0.003 (0.002)
Hhld Income	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Age	-1.365 (0.051)	-1.363 (0.052)	0.038 (0.007)	0.039 (0.007)
Education				
GED	0.267 (0.847)	1.776 (0.942)	-0.078 (0.163)	-0.163 (0.167)
High School	0.899 (0.522)	1.935 (0.592)	-0.218 (0.089)	-0.275 (0.090)
Post-sec	-0.160 (0.547)	1.224 (0.662)	-0.102 (0.105)	-0.192 (0.107)
University	0.577 (0.594)	2.117 (0.726)	-0.123 (0.108)	-0.240 (0.114)
# Living Kids	-0.142 (0.100)	0.388 (0.165)	0.030 (0.016)	-0.004 (0.020)
Male	-0.596 (0.334)	0.028 (0.377)	0.696 (0.069)	0.646 (0.070)
Constant	184.177 (4.081)	172.575 (5.209)		
Cohort FE	yes	yes	yes	yes
Geog. FE	yes	yes	yes	yes

Robust standard errors, clustered at the household level, are in parentheses. Cox-PH coefficients are presented. Specifications include a set of indicators for cohort and census division.

Table 8: IV- Cox Estimates by Social Security Wealth  
 Dependent Variable: Months left before death

	< 25th P.	25th-75th P.	> 75th P.
Contacts	-0.0139 (0.0314)	-0.0853 (0.0295)	-0.0739 (0.0356)
Hhld Income	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Age	0.0280 (0.0145)	0.0374 (0.0149)	0.0804 (0.0175)
Education			
GED	-0.7190 (0.3158)	0.0879 (0.2794)	-0.3904 (0.3777)
High School	-0.2568 (0.2375)	-0.1344 (0.1619)	-0.4273 (0.2219)
Post-sec	-0.1087 (0.2285)	-0.2447 (0.1870)	-0.1650 (0.2603)
University	-0.5622 (0.3087)	-0.2494 (0.2553)	-0.1642 (0.2414)
# Living Kids	0.0493 (0.0365)	-0.0475 (0.0382)	-0.0169 (0.0505)
Male	0.7179 (0.1729)	0.7422 (0.1260)	0.7598 (0.1833)
Cohort FE	yes	yes	yes
Geog. FE	yes	yes	yes

Robust standard errors, clustered at the household level, are in parentheses. Cox-PH coefficients are presented. Specifications include a set of indicators for cohort and census division.

Table 9: Mean contact by employment and grandchild status

Employment	New Grandchild	
	Yes	No
Work Full time	10.66	12.78
Work Part time	12.11	15.84
Not working	12.11	15.69

## References

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