

# Widow(er) Poverty and Out-of-Pocket Medical Expenditures Near the End of Life

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**Objectives.** Elderly widows are three times as likely to live in poverty as older married people. This study investigates the gap in poverty, income, and wealth between these groups. Focus is placed on the role played by out-of-pocket medical expenditures spent on dying spouses.

**Methods.** A national panel survey of people age 70 and older in 1993 was used. Income, poverty, wealth, and out-of-pocket expenditures were examined before and after widowhood, with comparisons made with couples not experiencing a death.

**Results.** Forty-four percent of the difference in economic status between widow(er)s and married elderly persons was due to disparities in economic status that existed prior to widowhood. The remaining 56% was due to factors more directly related to the death of a spouse, including the loss of income and expenses associated with dying. On average, out-of-pocket medical expenditures in the final 2 years of life were equal to 30% of the couple's annual income. For couples in the bottom quarter of the income distribution, these expenditures were 70% of their income.

**Discussion.** As policy makers continue to debate expansions and reforms of Medicare, the potential effects of these reforms on economic well-being, particularly among widows, should be considered.

DESPITE the overwhelming success and popularity of programs such as Social Security and Medicare, some subgroups of the elderly population continue to face substantial risks of living in poverty. Whereas the poverty rate for elderly individuals is now hovering at 10%, the poverty rate for elderly widows is nearly twice as high. When examining poverty rates for women in particular, one finds that approximately 5% of married elderly persons are poor compared with 17% of widows (Figure 1). Although policy makers have repeatedly expressed concern about these high rates and enacted legislation attempting to improve the well-being of surviving spouses, the figure demonstrates that this gap has stubbornly remained (see endnote 1). Obviously, the more that is known about the causes and characteristics of poverty among widows, the better targeted public policy can be.

One possible explanation for these high rates of poverty that has received little attention is the potential for couples to spend substantial portions of their wealth on the health care of a sick or dying spouse. When an ill spouse dies, the survivor may be left with fewer assets than had been anticipated, putting her at greater risk of becoming poor. Although this hypothesis has never been examined directly, recent policy discussions have reached the near-unanimous consensus that Medicare, the primary source of health insurance for most elderly citizens, has important gaps, including, most notably, the failure to cover extended hospital stays, prescription drugs, and long-term care. Indeed, the Medicare Modification Act of 2003 partially fills one of these gaps by providing some prescription drug coverage beginning in 2006. Although many couples have health insurance that supplements Medicare, a sizable portion may be vulnerable to catastrophic expenditures.

Here we investigate this possibility by examining medical out-of-pocket (MOOP) expenditures for elderly couples in the period immediately preceding the death of one spouse. Although the first spouse to die is typically the male, we include both widows and widowers in our study and simplify the discussion by using the term "widow" to refer to both. We first examine the size of these expenditures on an absolute level and relative to the couple's income and wealth. We then focus on the effects of MOOP expenditures on the financial well-being of the surviving spouse.

Our study proceeds as follows. The first section provides background information on the explanations for why widow poverty is so high. This section also describes the Medicare program and its gaps in coverage. Then the Asset and Health Dynamics Study that we use for our analysis is described. The empirical analyses of MOOP expenditures and other factors affecting the finances of the surviving spouse follow. The final section summarizes the findings.

## PREVIOUS STUDIES

Why are so many widows poor? The death of a spouse will mean a loss in income if the spouse had been working or perhaps the loss of a business if he was self-employed. However, a spouse's death may also result in a loss of many types of nonlabor income including pensions, annuities, and Social Security. Certainly, the amount needed to support a single person is less than that needed to provide for a married couple, but often the loss in income will be greater than the change in needs. For example, Social Security benefits for a couple in which only one spouse worked substantially in the labor force

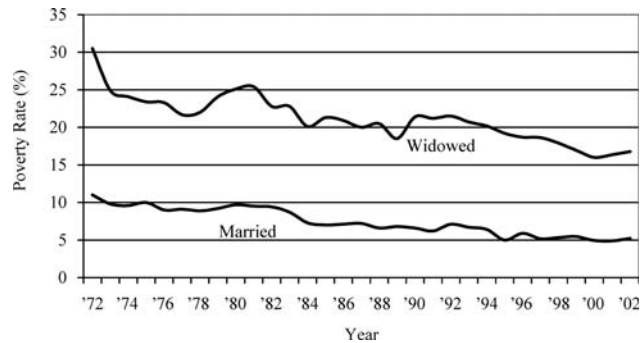


Figure 1. Poverty rates for elderly women by marital status: 1972–2002. (Source: authors' tabulations using March Current Population Survey).

are typically reduced by one-third when a spouse dies. Among couples in which both spouses worked and drew on their own Social Security benefits, benefits would be reduced by an even greater percentage. At the same time, the reduction in the needs level, as measured by the poverty line, is just 20%, automatically “causing” a number of individuals to be newly classified as poor. Finally, there may be reductions in financial well-being if some of the couple's wealth is bequeathed to a child or other heir or if substantial funeral expenses are involved.

Less obvious is the potential role played by differential mortality. The strong gradient in mortality risk by income (and wealth) implies that at any given age, women whose husbands have died likely had lower income throughout their lives than women whose husbands are still alive. Holding age constant, then, widows will be poorer than married women (Holden, Burkhauser, & Myers, 1986; Weir, Willis, & Sevak, 2000; Zick & Smith, 1991).

MOOP expenditures near death provide an additional avenue through which widows may become poor. It is well known that Medicare expenditures near death are large (Garber, MaCurdy, & McClellan, 1998): Evidence based on Medicare records points to medical spending in the last years of life that is approximately six times larger than medical expenses at other times (Lubitz & Riley, 1993). However, it remains to be seen whether the out-of-pocket costs borne by Medicare beneficiaries themselves have a sharp rise as well. The fact that the Medicare program does not offer coverage for long-term care, extended hospital stays, prescription drugs (until 2006), and other services might appear to be a cause for concern. Many elderly persons do have insurance to supplement Medicare; 33.7% of this population has employer-sponsored private health insurance, an additional 30.1% of elderly Medicare participants purchase private insurance, and the poor are either implicitly or explicitly covered by the Medicaid program (Liu & Sharma, 2003). Note, however, that Medigap insurance does not provide coverage for long-term care and many policies do not cover prescription drugs. Medicaid does cover all such expenses.

We are not the first to recognize the potential importance of medical spending in affecting economic well-being. In 1995, a National Academy of Sciences panel issued a report on poverty, arguing that health care expenditures should be subtracted from income when measuring poverty rates (Citro & Michael, 1995). Because medical costs are high among the elderly, such a change would be expected to have a substantial effect on esti-

mates of poverty for this group. One study has concluded that subtracting MOOP expenditures from income would lead to elderly poverty rates that are twice as high as the current-income-only approach used by the Census Bureau (Johnson & Smeeding, 2000).

#### DATA

The data for our study come from the Asset and Health Dynamics (AHEAD) cohort of the Health and Retirement Study (HRS). The HRS is a panel survey of older individuals. The AHEAD cohort consists of those born in 1923 or before, as well as their spouses or partners (Soldo, Hurd, Rodgers, & Wallace, 1997). When appropriately weighted, the sample is representative of the noninstitutionalized population in this age group. The first wave of AHEAD interviews was conducted in 1993 when respondents were approximately 70 years old or older, and they have been reinterviewed approximately biennially thereafter. (The pattern of biennial interviews was altered in 1997 to carry out a one-time shift to even-numbered years.) Importantly for this article, when a respondent dies, an “exit” interview is conducted to obtain information about the respondent's life since the previous wave, including medical expenses up until the date of death.

We use Wave 1 and Wave 2 of AHEAD and the exit interview for respondents who died between waves. Of particular importance are the data on MOOP expenditures. In Wave 1, respondents are asked to report total expenditures on goods and services (nursing home, hospital and doctor bills, and any other medical or dental expenses) for the preceding 12 months. Data on MOOP expenditures in Wave 1 were collected in two questions: one focusing solely on nursing home expenses and a second comprehensive question that asked about all other expenses. We combined these two categories to form total MOOP expenditures. Depending on the category of expenditures and the wave of the interview, as little as 0.1% and as much as 20.2% of the sample had missing data on MOOP, with the highest rates within the exit interview. When the respondent did not know if there were any such expenses, we imputed the amount using a two-step procedure. First, we randomly assigned a value of 0 or 1 to each of the “don't knows,” with the probability of being assigned a value of 1 equal to the share of the respondents reporting positive MOOP spending among those who did, in fact, know if MOOP expenditures were incurred. The “don't knows” who were randomly assigned a value of 1 were then assigned a value of MOOP spending equal to the mean value of MOOP expenditures among those respondents who reported positive values. Respondents assigned a value of 0 were assigned MOOP spending of 0. Given the skewness of the distribution, we also experimented with using the median instead of the mean and found the results to be similar. To this combined amount, we add expenditures for health insurance premiums including Medicare Part B premiums (see endnote 2). This total gives us our measure of what individuals spent for health care. Hill and Mathiowetz (2000) find that estimates of medical spending based on the HRS and the Medical Expenditure Panel Study align well.

For married couples, the Wave 1 survey is less than ideal in that it does not identify which spouse incurred the costs. To estimate a per-person expenditure, we simply assign half of the couple's total expenditures to each spouse. Because we focus

on those couples in which a spouse died between Wave 1 and Wave 2, it is possible that the spouse who died between waves was ill and had higher health care costs in Wave 1 than did the surviving spouse. In this case, our approach of evenly dividing Wave 1 expenses may lead to an underestimate of MOOP expenditures in the last years of life. We have carefully investigated this issue and believe that this bias is likely to be small. Because there is no aggregation bias for single respondents, we investigate the possible severity of this bias by comparing health care costs in Wave 1 for singles who survive to the second wave and those who do not. We find that MOOP expenditures are 25% percent larger for singles who die between waves than for those who survive, \$2,503 compared with \$1,995. In comparison, the difference in our constructed MOOP expenditures in Wave 1 for married couples who experienced a death and those who did not was, again, approximately 25% percent, \$2,787 versus \$2,211, on a per-spouse basis, suggesting that the equal division of Wave 1 expenditures did not result in misleading conclusions.

At the exit interview, proxy respondents were asked to report MOOP expenditures for the decedent between the time of the Wave 1 interview and the time the person died. In the exit interview, expenditures were reported solely for the deceased respondent (and not for the couple as a whole) and were delineated separately for each of the following categories: nursing home and hospital, hospice, doctor and dental bills, prescription drugs, special services, and all other services. The amount spent on health insurance premiums for the deceased spouse is also reported. Thus, the data contained in the exit interview are somewhat more detailed than those available in Wave 1.

Because the date of death varies across decedents, the time span included in the exit interview measure of MOOP spending differs across observations, potentially varying from 1 day (if the decedent died the day after completing the initial interview) to as much as roughly 2 years (if the respondent died just prior to the second interview). Although the survey asks the proxy respondents for the date of death of the deceased, this information is not available in the public release version of the AHEAD, and we therefore cannot scale expenses by the length of time elapsed since the Wave 1 interview (see endnote 3).

For individuals who die between waves, we combine total MOOP expenses reported in Wave 1 (i.e., one-half of a couple's expenditure) with expenses reported in the exit interview and call this "end-of-life expenditures." For respondents who are married in Wave 1 and for whom a spouse does not die (i.e., "survivors"), we combine MOOP expenditures for waves 1 and 2 and use this total to compare with the end-of-life expenditures of decedents. The time frame for our expenditure measures therefore varies from 1 to as many as 3 years prior to death for decedents but always equals 3 years for survivors. The different length of time over which MOOP expenditures are measured biases our results against finding greater expenditures for decedents than survivors because decedents, by definition, live less than the time between interviews. Thus, differences in daily expenditures for decedents and survivors will be even greater than those we report. To assess the degree of concentration of spending, we also compare just Wave 1 expenditures for the two groups. This comparison provides an estimate of the degree to which differences in expenditures are evident well before the date of death. In this case, the time

Table 1. Descriptive Statistics

Characteristics at Wave 1	Decedents	Survivors
Mean age	78.8	76.1
Black (%)	8.8	4.9
Hispanic (%)	4.3	3.1
Female (%)	26.2	40.7
Poor health (%)	42.3	7.6
Years of schooling	10.5	11.6
Mean income (\$)	37,336	45,501
Mean wealth (\$)	285,212	383,602
No. of observations	271	3,550

Notes: Decedents are classified as people married in Wave 1 and dead by Wave 2, but the spouse survives. Survivors are classified as people married to the same person in Wave 1 and Wave 2.

periods covered by the data are identical and equal to 12 months.

Income is total income of the household from all sources. Wealth includes the couple's holdings in the form of housing, vehicles, and other physical assets (less the amount still owed on those assets), plus all financial assets; Social Security and pension wealth are not included. All income and wealth estimates, including MOOP spending, are expressed in 2000 dollars.

A total of 775 people died between the two waves and had a completed exit interview. (Sixty-nine respondents were reported to have died but had no exit interview.) Of these 775, 271 were married in Wave 1 and had a spouse who survived to Wave 2, whereas an additional 3,550 respondents were married in Wave 1 and remained married to the same (living) spouse in Wave 2. For many of our analyses, we will compare these 271 decedents with the 3,550 survivors. For the survivors, each spouse in a married couple contributes one observation to the analysis. Therefore, all estimates of MOOP are reported on an individual basis, not for the couple as a whole. As noted earlier, our sample of decedents includes both males and females, although we will refer to this group as "widows." Among the 271 decedents, 201 are males, so the surviving spouses are overwhelmingly female. Therefore, analyses that were conducted using data only on female survivors led to very similar results. The sample size was not large enough to examine male survivors by themselves. Descriptive characteristics of the sample are reported in Table 1.

## OUT-OF-POCKET SPENDING

### *Distribution of Expenditures*

Table 2 reports the distribution of MOOP expenditures for each of the two interview periods and the combined total. Statistics are presented separately for our initially married decedents and those in surviving couples.

Almost all people, both survivors and decedents, have some MOOP expenditures. Like most medical spending, MOOP spending among decedents is highly skewed, with the very top portion of the distribution incurring enormous costs. The conditional mean expenditure in our sample of decedents is \$11,273; the median is just \$7,361. Expenditures rise sharply so that the 75<sup>th</sup> percentile is \$13,280, and 10% had expenditures of at least \$27,124, more than three times the year 2000 poverty line of \$8,259 for a single elderly person.

Table 2. MOOP Spending for Decedents and Survivors

	% With Conditional			Percentile		
	MOOP	Mean (\$) <sup>a</sup>	Median	75th	90th	95th
<b>Decedents</b>						
MOOP spending						
Wave 1	94.1	2,962	1,884	3,412	5,773	7,198
Exit interview	91.4	9,013	4,690	9,937	20,068	29,832
Wave 1 +	97.8	11,273	7,361	13,280	27,124	34,212
Exit interview						
Income at Wave 1		37,336	28,510	42,765	71,275	106,913
Wealth at Wave 1		285,212	142,558	296,507	702,364	1,003,563
<b>Survivors</b>						
MOOP spending						
Wave 1	96.6	2,289	1,741	2,953	4,632	5,804
Wave 2	94.7	4,984	2,618	4,971	9,446	13,577
Wave 1 +	98.9	7,009	4,776	8,123	13,143	17,381
Wave 2						
Income at Wave 1		45,501	34,212	51,318	85,531	114,041
Wealth at Wave 1		383,602	212,687	444,191	848,182	1,260,156

Notes: MOOP = medical out of pocket. Wave 1 and Wave 2 expenditures (except for insurance premiums) are reported for the couple as a whole; therefore, we assign half of the couple's total MOOP spending to each spouse. Decedents are classified as people married in Wave 1 and dead by Wave 2, but the spouse survives ( $N = 271$ ). Survivors are classified as people married to the same person in Wave 1 and Wave 2 ( $N = 3,550$ ).

<sup>a</sup>Mean for income and wealth is not conditional on positive values.

There is a substantial difference between expenditures for decedents and survivors, with survivors incurring costs that are approximately 38% lower than those for decedents, \$7,009 compared with \$11,273. As the table illustrates, this difference is dramatic in the last few months of life, as captured by the exit interview. For decedents, the conditional mean spending in the exit interview was \$9,013, whereas for survivors, the Wave 2 conditional mean was just \$4,984. Recall that even this large difference is an underestimate of the true gap because the Wave 2 expenditures for survivors are for a 2-year period, whereas those for decedents pertain to a necessarily shorter period. To approximate the true difference, assume the date of death is uniformly distributed between the two waves (i.e., the median/mean length of time covered by the exit interview is 1 year) and assume that expenditures are also uniformly distributed across the 2 years; then, the \$9,013 reflects expenditures for a single year compared with single-year expenditures of \$2,500 for survivors (one half the 2-year total of \$4,984). This difference between average amounts for decedents and survivors is not the result of a few outliers but rather runs through the entire distribution; the median, 75<sup>th</sup> percentile, and 90<sup>th</sup> percentile for survivor expenditures are all substantially less than the same point in the distribution for decedents.

Table 3 reports MOOP expenditures for the two samples by type of service. These data pertain to the exit interview for decedents and to the Wave 2 interview for survivors. Medicare does not cover (most) nursing home stays, prescription drugs, or all physician charges (the \$100 deductible and the 20% copayment). Therefore, it is not surprising that MOOP expenditures for these categories are quite common. A surprisingly similar fraction of decedents and survivors had out-of-pocket prescription drug expenditures: 69.0 versus 66.4%. However, among decedents, the average expenditures were much larger.

Table 3. Type of MOOP Spending for Decedents and Survivors

	% With Conditional			Percentile		
	MOOP	Mean (\$)	Median	75th	90th	95th
<b>Decedents</b>						
All	91.4	9,013	4,690	9,937	20,068	29,832
Prescription drugs	69.0	4,210	1,093	3,643	7,529	9,716
Insurance premiums	58.6	1,546	615	1,295	2,259	2,688
Nursing home	34.7	7,723	0	2,024	8,051	17,833
Physician	36.3	1,609	0	408	1,619	2,234
Special services	7.4	8,392	0	0	0	270
Other services	31.8	1,698	0	1,047	1,816	1,816
<b>Survivors</b>						
All	94.7	4,984	2,618	4,971	9,446	13,577
Prescription drugs	66.4	2,992	518	1,813	4,858	7,001
Insurance premiums	64.4	1,835	1,198	1,506	2,699	3,400
Nursing home	11.3	5,487	0	0	206	2,307
Physician	75.0	1,121	270	890	2,429	2,916
Special services	3.6	2,472	0	0	0	0
Other services				<i>Not asked in wave 2</i>		

Notes: MOOP = medical out of pocket. MOOP spending: for decedents, exit interview; for survivors, Wave 2. Decedents are classified as people married in Wave 1 and dead by Wave 2, but the spouse survives ( $N = 271$ ). Survivors are classified as people married to the same person in Wave 1 and Wave 2 ( $N = 3,550$ ).

MOOP expenditures for drugs alone among the fraction with positive expenditures were \$4,210 for decedents compared with \$2,992 for survivors.

Following prescription drug costs, the next most common MOOP expenditure was for insurance premiums, with 58.6% of the decedents and 64.4% of survivors making premium payments. The largest difference between decedents and survivors relates to long-term care. More than one-third of decedents had some nursing home expense, with an average cost of \$7,723. By comparison, only 11% of survivors incurred costs for nursing home care, and even among this group, expenditures were substantially lower than for the decedents averaging just \$5,487. Because nursing home costs averaged roughly \$43,000 for a full-year stay in the mid-1990s (Rhoades & Sommers, 2001), individuals in both groups must have spent only a fraction of the year in residence, on average, or had other means of funding.

### Relationship to Financial Resources

If medical care is a normal good, *ceteris paribus*, we would expect that spending would increase with income and wealth. However, because insurance coverage alters the cost of care, if people with more resources are more likely to hold insurance, the relationship between income and wealth and actual MOOP expenditures may be less clear. Similarly, rich respondents may be healthier than poor, need less care, and therefore spend less. Alternatively, the availability of Medicaid coverage for low-income elderly persons means that they may face substantially lower MOOP costs for the same amount of care.

The tabulations in Table 4 suggest little relationship between MOOP expenditures for the dying spouse and income or wealth of the couple but a strong relationship between financial status and the ratio of expenditures to resources. Respondents in the bottom income or wealth quartile are somewhat less likely to have had MOOP expenditures than those in the higher quartiles, likely owing to the higher probability of Medicaid coverage, but

Table 4. Total MOOP Spending on the Dying Spouse Relative to Couple's Income and Wealth

	% With MOOP	Mean MOOP	Mean Income	Mean Wealth	Income Ratio	Wealth Ratio
All	97.8	11,025	37,336	285,212	0.295	0.039
Income quartile at Wave 1						
Lowest	95.9	8,611	12,206	135,328	0.705	0.064
Second	98.8	10,799	21,260	131,929	0.508	0.082
Third	96.7	9,936	33,321	245,272	0.298	0.041
Highest	100.0	14,951	81,575	616,534	0.183	0.024
Wealth quartile at Wave 1						
Lowest	95.2	9,260	20,440	11,189	0.453	0.828
Second	98.6	10,810	24,970	82,598	0.433	0.131
Third	98.7	10,865	37,668	195,986	0.288	0.055
Highest	97.9	12,726	62,256	789,367	0.204	0.016
Insurance status						
Medicare only	95.7	16,854	36,053	292,691	0.467	0.058
Medicare and Medicaid	91.5	5,272	21,361	99,296	0.247	0.053
Medicare and Medigap, basic, retiree, or other	100.0	10,663	40,049	312,783	0.266	0.034

Note: MOOP = medical out of pocket. For the table, the sample used was people married in Wave 1 and dead by Wave 2, but the spouse survived ( $N = 271$ ).

there is no apparent relationship for the rest of the distribution. If elderly persons in the highest quartiles are, indeed, more likely to have insurance to supplement Medicare, and if the insurer bears some of the cost of additional treatments, then the similarity of spending across the three top quartiles may suggest that the well-to-do are purchasing a substantially larger quantity of additional care or perhaps more expensive services than the means in Table 4 suggest.

In contrast to the patterns for the level of spending, as a share of income, MOOP expenditures on the dying spouse are much larger for low-income and low-wealth families. For the elders in the bottom quartile of income (at Wave 1), MOOP spending in the last years of life is equal to 70.5% of annual income. This share declines monotonically to 50.8% for the second quartile and 29.8% for the third quartile. Even the highest-income group is not immune to spending large sums of money (relative to income) on prescription drugs, nursing homes, and other services, with their total MOOP expenditures equal to almost one-fifth of annual income (18.3%).

The ratio of MOOP spending on the dying spouse to wealth is also strongly negative. The least wealthy families have expenses equal to 82.8% of their wealth holdings, but this ratio falls quickly to 13.1% for the second quartile, 5.5% for the third, and just 1.6% among the highest. These differences suggest that MOOP expenditures are sufficiently large among the low-income/low-wealth elderly population that they could have a sizable effect on the subsequent financial well-being of a surviving spouse.

This measure of MOOP expenses relative to income was constructed by taking the ratio of the means of these two variables. An alternative approach is to calculate the ratio of spending to income (or wealth) for each individual and then analyze the distribution. This latter approach is more sensitive

Table 5. Distribution of Ratio of Total MOOP Spending on Dying Spouse to Couple's Income in Wave 1

Percentile	Ratio of MOOP Spending to Income
5th	0.017
10th	0.043
20th	0.075
30th	0.121
40th	0.181
50th	0.238
60th	0.311
70th	0.444
80th	0.625
90th	1.043
95th	1.427

Note: MOOP = medical out of pocket. For the table, the sample used was people married in Wave 1 and dead by Wave 2, but the spouse survived ( $N = 271$ ).

to outliers than the former, but it is a more widely used statistic and has the advantage of generating an entire distribution of relative expenses. As shown in Table 5, for about one fourth of those who die, MOOP expenses are relatively small, < 10% of income. However, one half of decedents have MOOP expenditures of more than roughly one fourth (23.8%) of their annual income, and 20% spend > 62.5% of income. Because income is reported on an annual basis and MOOP spending is the total over as many as 3 years before death, a ratio of > 1.0 is possible. Even in a single year, expenses can be greater than income if assets are used to pay for the expenses or if the individual/couple takes on debt. And, indeed, at the upper tail of the distribution, 11% of the sample had MOOP spending equal to > 1 full year of income (not shown).

## WIDOW POVERTY

Of primary interest is the effect of these expenditures on the well-being of the surviving spouse. Here we look not just at those who lost a spouse between waves, who have been the

Table 6. Income, Wealth, and Poverty in Wave 2 by Marital Status in Waves 1 and 2

	Married in Wave 2	Widows in Wave 2		
		All	Recently Widowed: Married in Wave 1, Widowed in Wave 2	Previously Widowed: Widowed in Both Waves
Income				
Mean	51,378	22,841	29,514	21,977
Median	32,808	15,748	18,372	15,433
Mean per capita	25,689	22,841	29,514	21,977
Wealth				
Mean	620,772	314,254	426,045	290,463
Median	257,218	118,851	167,322	108,923
Mean per capita	310,386	314,254	426,045	290,463
Poverty rate	6.6	21.9	17.6	22.9
Observations	3,550	2,758	271	2,461

Table 7. Effects of Widowhood on Poverty and Income

	Marital Status at Wave 2								Difference in Change	% of Postwidowhood Gap Due to Prewidowhood Gap × 100
	Married (N = 3,550)				Widowed (N = 271)					
	Wave 1	Wave 2	Change	% Change × 100	Wave 1	Wave 2	Change	% Change × 100		
Poverty rate	6.34	6.10	-0.24	-3.79	11.43	17.59	6.16	53.89	6.4	44.3
Mean income	44,180	51,439	7,259	16	35,017	29,515	-5,502	-16	-12,761	41.8

Note: For the table, the sample used was people married in Wave 1.

focus of the analyses thus far and to whom we refer as “recently widowed,” but also at those who were widowed at an earlier time (and who have not remarried). The first two columns in Table 6 display the poverty rate, income, and wealth for elderly persons who are married and elderly persons who are widowed at the time of the second interview. The subsequent two columns report the relevant statistics separately for the recently widowed and previously widowed. The gaps in income and wealth between the groups are large. Perhaps unsurprisingly, widows have less than half the income and wealth of the married elderly, but the recently widowed have much higher income and wealth than those who were widowed at the initial interview. Mean income for married couples is \$51,378 compared with \$22,841 for all widows and \$29,514 and \$21,977 for “recent” and “previous” widows, respectively. The means for wealth are \$620,772 and \$314,254 for married and widowed respondents, respectively, again with large differences existing between recent and previous widows. These differences are consistent with the differential mortality hypothesis: that individuals with low income/wealth die earlier than those with more resources, creating widows with fewer resources than those whose spouses are still alive. However, it is also consistent with the idea that the length of time spent in widowhood is itself a contributing cause of poverty (Weir, Willis, & Sevak, 2000). After years of relatively low income, a widow eventually spends down all available assets and has little left to support herself. Despite the intuitive appeal, evidence from the first two waves of the AHEAD does not support this hypothesis; the poverty rate of those previously widowed changed only modestly between Wave 1 (21.3% [not shown in tables]) and Wave 2 (22.9%), but, admittedly, this is a very short time period.

Although the raw differences in the resources of married and widowed respondents are large, on a per-capita basis, widows actually have similar income and wealth. However, the similarity of these averages is deceiving. As the second to last row of Table 6 illustrates, the poverty rate of widows is over three times that of elderly couples, 21.9 versus 6.6%. This large difference in the poverty rate exists in part because of the assumptions about returns to scale in consumption embedded in the definition of the poverty line: The federal poverty line for singles is 79% that of couples, not 50% as this per-capita analysis assumes. Thus, similar resources per capita translate into substantially higher poverty rates. Again, the recently widowed fare somewhat better than the previously widowed.

We now examine the factors accounting for the high rates of poverty among widows, focusing on the relative importance of the roles of differential mortality and MOOP expenditures on the dying spouse. Declines in income for other reasons such as reductions in Social Security income, pension income, or asset income are left as a residual.

### *Pre-Widowhood Economic Status and Effects of Widowhood on Poverty*

Table 7 demonstrates the differences in poverty rates between soon-to-be widowed respondents and couples in which both spouses survive. The table reports poverty rates and average income in Wave 1 and Wave 2 for the two groups. The first goal of the analysis is to determine the effect of widowhood itself on poverty. One potential estimator is a simple pre/post comparison, that is, a “difference” estimator. For those who were married in Wave 1 and widowed in Wave 2, poverty rose from a first period rate of 11.43 to 17.59% in Wave 2. Therefore, the pre/post estimator of the effects of widowhood on poverty would imply that widowhood is associated with an increase in poverty by 6.16 percentage points (17.59 – 11.43; see endnote 4).

However, the poverty rate changes over time, even for those who were not widowed. Among the surviving couples in our sample, poverty declined from 6.34 to 6.10%, suggesting that the increase in poverty associated with widowhood might have been even greater had underlying economic conditions not intervened. We therefore take a “difference-in-difference” approach. The change in poverty for continuously married couples was –0.24 percentage point. Because poverty rose by 6.16 percentage points among widows, the difference-in-difference estimator implies that widowhood is associated with an increase in poverty by 6.40 percentage points (6.16 + 0.24), slightly greater than the simple first-differenced estimate. This 6.40-percentage point increase translates into a 56.0% increase in poverty.

Table 7 makes clear that a large gap in the relative well-being of widowed and nonwidowed elderly individuals existed prior to the death of the spouse. In Wave 1, the poverty rate was 11.43 for decedent couples and 6.34 for surviving couples, a difference of 5.09 percentage points. By Wave 2, the difference in poverty rates for the two groups was 11.49. Thus, 44% (5.09/11.49) of the post-widowhood difference resulted from initial conditions. The remaining 56% is due to other factors surrounding widowhood, including MOOP spending on the dying spouse, other changes in wealth, loss of the spouse’s income, and assumed returns to scale in consumption embedded in the poverty line.

### *Role of Spouse’s MOOP Spending in Last Years of Life*

Many of the poor widows in our sample were poor in Wave 1 while their husbands were still alive. Our calculations indicate that 39% percent of those in poverty in Wave 2 were also poor in Wave 1. However, for the majority of poor widows (56%), poverty accompanies widowhood. For those who do transit into poverty, how important are MOOP expenditures in these transitions? From the tabulations presented earlier, it certainly seems as though these expenses could be sufficiently large rel-

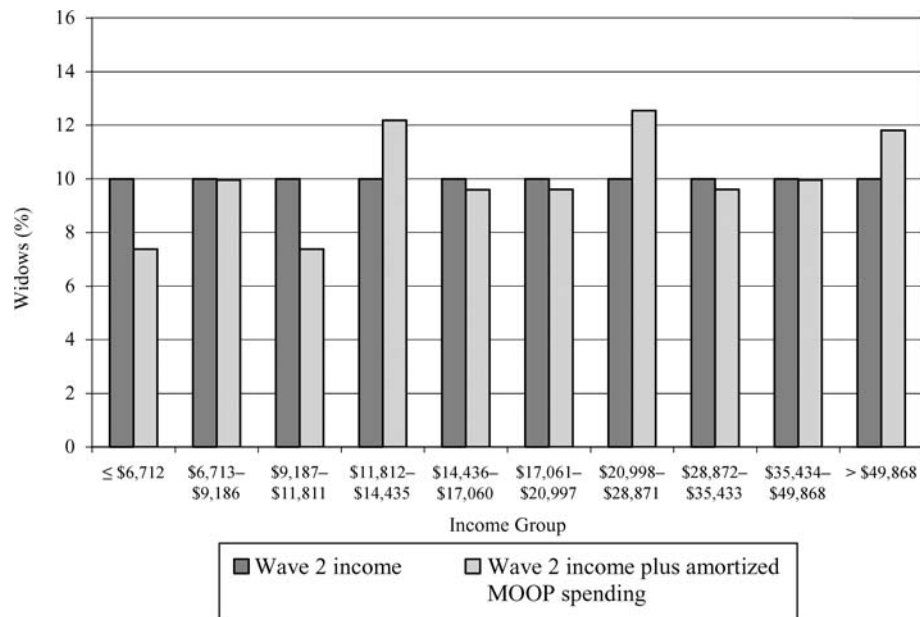


Figure 2. Distribution of income in Wave 2 with and without adjusting for medical out-of-pocket (MOOP) spending on the dying spouse.

ative to income, especially for lower-income families, that they could move the (nonmedical) attainable level of consumption for someone from above the poverty line to well below it. Here we undertake a simulation to assess the potential for MOOP spending to alter well-being. We assume that all the money that was used on MOOP spending for the decedent as reported in the exit interview—that is, roughly the last year of life—would have been available to the surviving spouse to spend over his/her remaining life. To implement this change in financial resources, the total MOOP expenditures from the exit interview are amortized over the remainder of the widow's expected life, and this amortized amount is added to the Wave 2 income (an interest rate of 4% was used for the calculation of amortized MOOP expenditures).

The mean value of MOOP spending from the exit interviews is approximately \$9,000 and average life expectancy is roughly 9 years, yielding an average annual amortized amount of \$1,156. Because MOOP spending differs greatly across decedents and is highly skewed, the additional income imputed to the surviving spouses also varies: The 25<sup>th</sup> and 75<sup>th</sup> percentiles of the distribution of amortized MOOP spending are \$174 and \$1,275, respectively. When these individual-specific amounts are added to the Wave 2 income of the surviving spouses, the poverty rate for these widows falls from 17.6% (as reported in Table 7, column 6) to 15.9% (not shown in tables). This approach illustrates the potentially important effect of MOOP spending associated with the dying spouse on the economic well-being of the surviving spouse.

An alternative measure to the poverty rate is the poverty gap. The poverty gap is the sum over all those in poverty of the amount by which income falls below the poverty line, that is, the minimum amount of income that would need to be transferred to poor families to move them all out of poverty. To assess the role of MOOP spending in affecting well-being beyond the simple movement across the poverty line, we also calculate the poverty

gap with and without adding the amortized MOOP spending to Wave 2 income. Doing so reduced the poverty gap by 28%, similar to the effect on poverty.

#### *Distribution of Declines in Income*

A final “cause” of poverty is the different returns to scale used for Social Security benefits and the poverty line. As noted earlier, a substantial amount of “new poverty” among widows exists because the poverty line for singles is equal to 79% of that for couples, while Social Security (and many pensions) fall by much more. If we compare income before and after the death of a spouse (including the amortized medical expenditures in post-widowhood income), we find that 41% of the sample had a decline in income of >33% (the expected change in Social Security benefits), 11% had a decline of between 20 and 33%, and 18% had a smaller decline. Twenty-nine percent had an increase in income. This change in the poverty line when moving from a two- to one-person measure is somewhat arbitrary. With a larger decrease in the needs level, fewer widows would be counted among the poor, whereas with a smaller change, more would be so classified. Similarly, if Social Security benefits were reduced by 21% rather than by one-third, the risk of poverty would be substantially lessened.

To move away from this single measure, we analyze the effect of MOOP expenditures on the dying spouse on the entire distribution of income. Figure 2 displays the actual distribution of income in Wave 2 for our new widows, with the widows separated into 10 deciles based on income in Wave 2. Amortized MOOP expenditures are then added to Wave 2 income, with the resulting income distribution displayed in the figure. As expected, the distribution of income at the bottom improves: The share with income less than \$6,713 falls from 10 to 7.5%. This vast improvement for low-income families is surprising because one would have expected their costs to be covered by Medicaid. There are also notable improvements at

the upper end of the income distribution, with the share of widows with income greater than \$49,868 increasing from 10 to 12%.

### SUMMARY

Despite improvements in income and poverty among the elderly throughout the last century, nearly one-fourth of elderly widows remain poor. Not only must widows deal with the psychological effects of losing their spouse, they must deal with a precarious financial situation that often accompanies widowhood. In fact, our estimates using the most recent nationally representative panel data suggest that widowhood per se is associated with a rise in poverty of between 6.2 and 6.4 percentage points.

Previous researchers have emphasized changes in income and differential mortality. Here, we examined an alternative avenue, the role of MOOP expenditures for a dying spouse. Although the Medicare program is extremely generous, it does not provide coverage for all types of care; most notably, it does not provide complete coverage for very long hospital stays or for most long-term care needs. Furthermore, until 2006 Medicare will not cover prescription drugs. These gaps leave many elderly persons vulnerable to potentially large out-of-pocket expenditures. Because such expenditures are likely to be largest near death, the burden of paying for health care toward the end of life may most severely affect the financial well-being of the surviving spouse. Thus, MOOP spending, and indirectly the gaps in Medicare that leave such costs to the elderly individual, may play a role in the high rates of poverty among widows.

We find that, in fact, MOOP expenditures are particularly large at the end of life. Moreover, these MOOP expenditures are large relative to income, particularly among low-income elderly individuals. For people in the lowest income quartile (i.e., income of below \$12,000), this final MOOP spending is equal to approximately 70% of income. Moreover, we conclude that out-of-pocket medical expenditures can, indeed, cause a sharp decline in the financial well-being of widows.

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### END NOTES

1. Legislative efforts through the Employee Retirement Income Security Act (ERISA) and the Retirement Equities Act (REACT) have sought to ensure that widows receive survivorship benefits from their deceased husband's pension. See the U.S. Department of Labor Employee Benefits Security Administration Web site ([www.dol.gov/ebsa/](http://www.dol.gov/ebsa/)) for a discussion of these laws.
2. The Medicare Part B premium is \$45.50 in year 2000 dollars (U.S. Congress, House Ways and Means, 2000).
3. If the length of time between the first interview and the date of death varies systematically with other characteristics of the deceased, our results could be biased. For instance, suppose high-income individuals live longer than low-income individuals and are therefore more likely to die towards the end of the 2-year window. Because those who live longer will likely incur greater MOOP expenditures *ceteris paribus*, we will (perhaps incorrectly) conclude that high-income individuals spend more on medical care in any period. However, because the window is relatively small, and our initial respondents are in a fairly narrow age range, we do not believe our conclusions were altered by these potential biases.
4. Using the Retirement History Study (RHS), which consists of people aged 58–63 in 1969, Holden, Burkhauser, and Myers (1986) found that poverty increased substantially in the wave right after death and then fell substantially in the subsequent wave. They concluded that this pattern is explained by the fact that in the wave after death, income of the spouse who died during that year was not reported by the survivor. We investigated this issue by conducting analyses using



income data from the first four waves of the AHEAD and found that the poverty rate among widows rises by 8 percentage points between the wave just prior to death and the wave just after death, which is consistent with the estimate reported in Table 6. Most importantly, there

is virtually no change in the poverty rate (just a one percentage point increase) between the wave just after death and the second wave after death. Therefore, the pattern observed in the RHS is not observed in the AHEAD.

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