



# On the Distribution and Dynamics of Medical Expenditure Among the Elderly

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Despite nearly universal enrollment in Medicare, most elderly Americans still face the risk of catastrophic medical expenses. This is because Medicare does not pay for long hospital and nursing home stays and requires co-payments for many other treatments. Medicaid fills many of these gaps, but only for households that pass a means test. Medical spending is thus a major financial concern among elderly households. In a recent survey, more affluent individuals worried about rising health care costs than about any other financial issue.

In this paper, we document patterns of medical spending among older households, distinguishing between spending covered by public insurance programs, such as Medicare or Medicaid, and the out-of-pocket expenses borne by the households themselves. Even though numerous papers have estimated the medical spending risks that older Americans face in any given year, very few studies have focused on the distribution of cumulative lifetime spending.

These lifetime totals, however, are critical when assessing the income and savings adequacy of older households. Households care not only about the risk of catastrophic expenses in a single year, but also about the risk of moderate but persistent expenses that accumulate into catastrophic lifetime costs. We use new data and methods to improve the measurement and assessment of this risk. In particular, we make three contributions.

First, to the best of our knowledge this is the first paper to estimate the dynamic process for total spending by all payors among the population 65 and older. Our main data set is the Health and Retirement Study (HRS), which has high quality information on out-of-pocket medical spending linked to administrative data from Medicare and Medicaid. To this we add data from the Medical Expenditure Panel Survey (MEPS), which allows us to impute private insurance and other payments not measured directly in the HRS. This yields an estimate of medical spending for HRS households

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that accounts for all payors, giving us comprehensive medical spending measures for the 65-and-older population over many years.

Second, we estimate a model of medical spending dynamics with a specification far more flexible than those used in previous studies. Using this specification allows us to more accurately predict the distribution of medical spending, both annual and cumulative, after age 65. This in turn allows us to better understand the risks facing elderly households over the entirety of their remaining life.

Third, we model the share of medical spending paid for by Medicare, Medicaid, and other payors, and calculate the extent to which these payors reduce lifetime out-of-pocket medical spending. Using detailed data and an advanced methodology allow us to better understand who benefits from Medicaid and Medicare.

In our framework, medical spending depends on a variety of factors, such as household structure and health. We estimate dynamic models taking these factors into account. Simulating our estimated models allows us to construct household histories and compute the distribution of total lifetime medical spending. Thus we can calculate the share

of people who face catastrophic medical spending over the course of their lives.

We find that Medicare and Medicaid cover a large amount of lifetime medical spending, substantially lowering the risk of catastrophic medical bills. However, on average, households still pay for 22% of all medical spending out of pocket. We find that lifetime medical spending during retirement is high and uncertain. Over their remaining lives, households at age 65 will incur, on average, \$272,000 in total medical spending, of which \$59,00 will be paid out of pocket. At the top tail, 10% of households will incur more than \$563,000 in total medical spending, of which \$121,000 will be paid out-of-pocket. The level and the dispersion of remaining lifetime spending diminishes only slowly with age. For example, a household alive at age 90 will spend, on average, more than \$99,000 in total, and \$21,000 out-of-pocket, before they die. The reason for this is that, as households age, surviving individuals on average have fewer remaining years of life, but are also more likely to live to extremely old age when medical spending is very high. Although initial health and marital status have large effects on this spending, much of the dispersion in lifetime spending is due to events realized in later years. ❖

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