Social Insurance and Medicare

University of Alabama

October 18, 2016

Last Class

- Overview of Managed Care
  - In MCOs, members pay a fixed monthly premium, are restricted to certain in-network providers, and typically pay a cheaper, negotiated price.
- Managed care is aimed to reduce costs of health care spending. Specifically, by having a primary care physician act as a "gatekeeper," MCOs are able to minimize wasteful health spending.
- HMOs were the first version of MCO, originating in California.
- Evans et al. (2008) explores effects of a California law requiring that HMOs pay for at least two nights in the hospital during childbirth.
  - The law seemed to improve health of complicated childbirths, however for normal childbirths the law was overly costly.

What is Social Insurance?

Thus far we have talked about whether society should provide health insurance to the poorest of the poor, an individual without the means to purchase insurance at the market.

Essentially we have three options as a society:

1. Let this poor individual die in the streets (actually due to the Emergency Medical Treatment and Active Labor Act of 1986, emergency rooms must treat everyone regardless of ability to pay, so unless this bill is repealed, this is not an option).

2. Allow poor individuals to remain uninsured, and in the event of a negative state, foot the bill through uncompensated care.

3. Tax the wealthier class and provide health insurance for the poor individual. This type of insurance is **social insurance** -insurance programs provided by the government through taxes and regulation.

Types of Social Insurance

Social Insurance Programs can be divided into five categories:

1. **Poverty Programs:** Poor people lack purchasing power to buy the necessary goods for a minimal standard of life. Programs directed toward those in poverty involve either direct cash benefits or goods "in kind," such as rent vouchers or food stamps.

2. **Old Age:** The elderly have reached an age of retirement from active employment. Programs include income maintenance, such as Social Security, as well as services and considerations (assisted housing, Meals on Wheels, etc.).

3. **Disability:** The disabled have either temporary or permanent inability to work. Programs generally provide cash benefits. Disability programs were among the earliest social insurance programs. Examples are the Social Security Disability Income (SSDI) program and the Supplemental Security Income (SSI) program.

Types of Social Insurance

4. **Health:** Programs cover illness or well-care financing for various groups. Most programs have targeted children, the elderly, and the poor, with the government financing health care entirely or in part.

5. **Unemployment:** The unemployed receive assistance due to a temporary loss of work. Unemployment-related programs generally provide short-term cash benefits.

Social Insurance Definitions

Entitlements are programs that are available to all who qualify. Social Security and Medicare are examples of entitlement programs.

A *means-tested* program is one that is available only to individuals who meet certain income criteria. Food stamps and Medicaid are examples of means-tested programs.

An *in-kind* transfer is one that involves something other than cash itself. For example, would you rather have $100 or $100 worth of food stamp benefits?

Legislators, and the voting public, tend to prefer subsidies that are in-kind so that they can monitor and control the purchases of those receiving the subsidies. For example, food stamps limit the purchase of non-food items such as cigarettes and liquor.

A History of Social Insurance

- Prior to passage of the ACA, the U.S. was characterized as the only industrialized country lacking a comprehensive health related social insurance system.
- Historians date the pioneering legislation for a system of compulsory national health insurance system to Germany in 1883. National health insurance spread to other European countries at the end of the nineteenth and early twentieth centuries.
- Otto von Bismarck, a political leader of Germany in the late 1800s, created the first social health insurance program. He did so in hopes of gaining the support of working class people that otherwise might go to his political enemies.
- The German laws of 1883 set up a highly decentralized program that provided health insurance to workers in mining, transportation, construction, manufacturing, mechanical trades, and establishments using power machinery.

A History of Social Insurance

- Compared to European countries, the U.S. came late to social and government insurance.
- The Social Security Program was established in 1935. The program provided unemployment insurance, old-age insurance, and means-tested welfare programs.
- President Truman proposed "a single health insurance system that would include all classes of society, even those not covered by Social Security." Many opponents called this "socialized medicine," a term that greatly weakened its support in the political climate of the Cold War.
- President Johnson created Medicare and Medicaid in 1965

Medicare

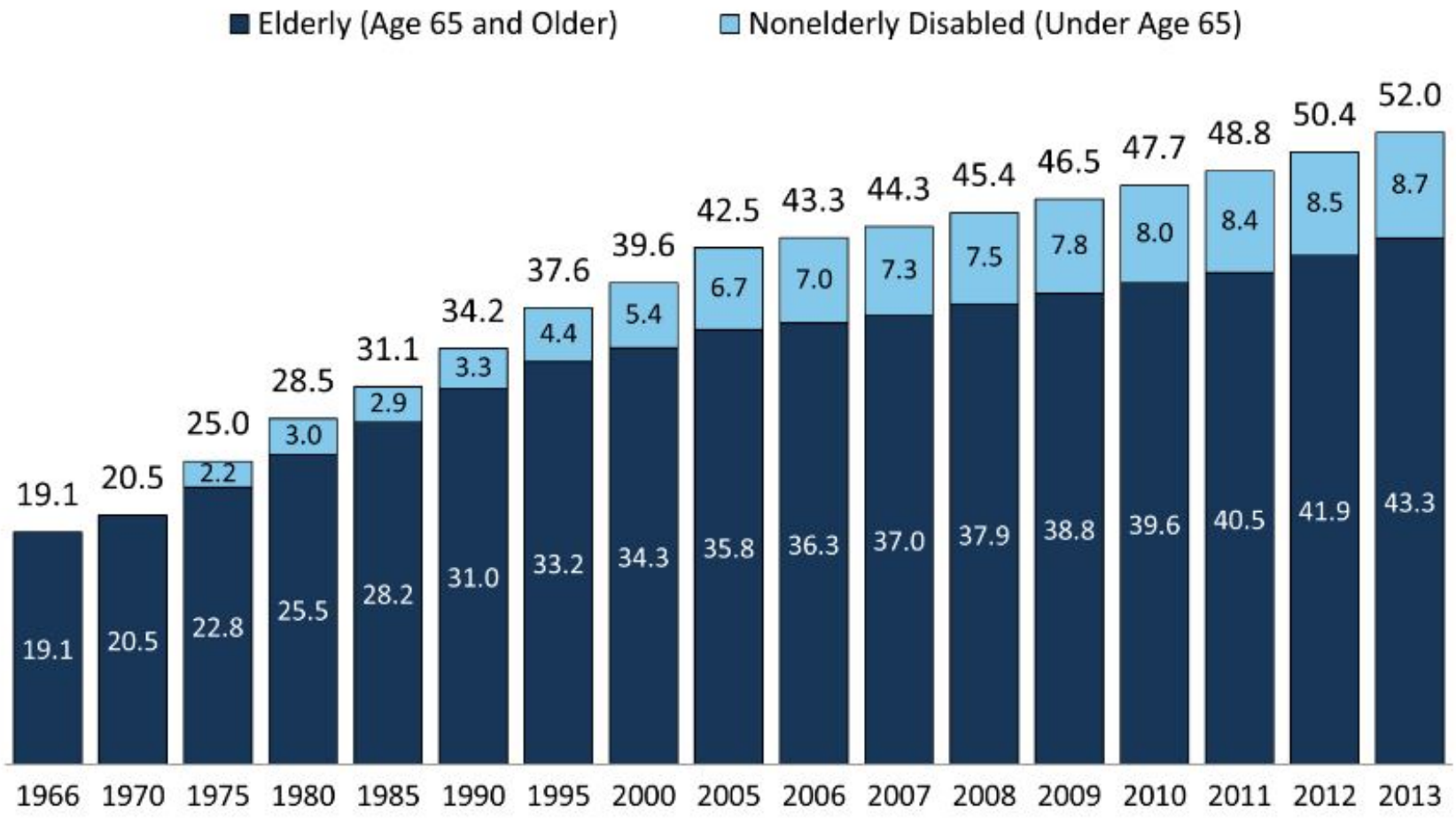
What is Medicare?

- Medicare is a social insurance program that provides "care" to the elderly.
- Provides health insurance to those ages 65 and up and those that are less than 65 that are approved for Social Security Disability Income (SSDI) benefits.
- Prior to Medicare passage in 1965, only about 1/4 to 1/2 of the elderly population had health insurance.
- Medicare effectively desegregated hospitals in the U.S. during the civil rights movement. Specifically, after the passage of Medicare, congress had the power to withhold funds to any U.S. hospital that practiced racial discrimination.

Medicare

- Medicare was expanded to non-elderly on SSDI in 1972.
- Medicare provides compulsory hospital care to the elderly plus optional medical coverage to which nearly all elderly subscribe.
- Medicare was expanded to private insurance (Part C) in 1997. This is Medicare Advantage.
- Medicare was expanded to cover prescription drugs (Part D) in 2003.
- When Medicare began in 1966, approximately 19 million people enrolled. By 2010, approximately 47.1 million people were enrolled in one or both of Parts A and B, and almost 12 million of them have chosen to participate in a Medicare Advantage Plan, and 34 million subscribe to Medicare Part D.

Medicare Enrollment, 1966-2013



NOTES: Numbers may not sum to total due to rounding. People with disabilities under age 65 were not eligible for Medicare prior to 1972.
SOURCE: Centers for Medicare & Medicaid Services, Medicare Enrollment: Hospital Insurance and/or Supplemental Medical Insurance Programs for Total, Fee-for-Service and Managed Care Enrollees as of July 1, 2011: Selected Calendar Years 1966-2011; 2012-2013, HHS Budget in Brief, FY2014.

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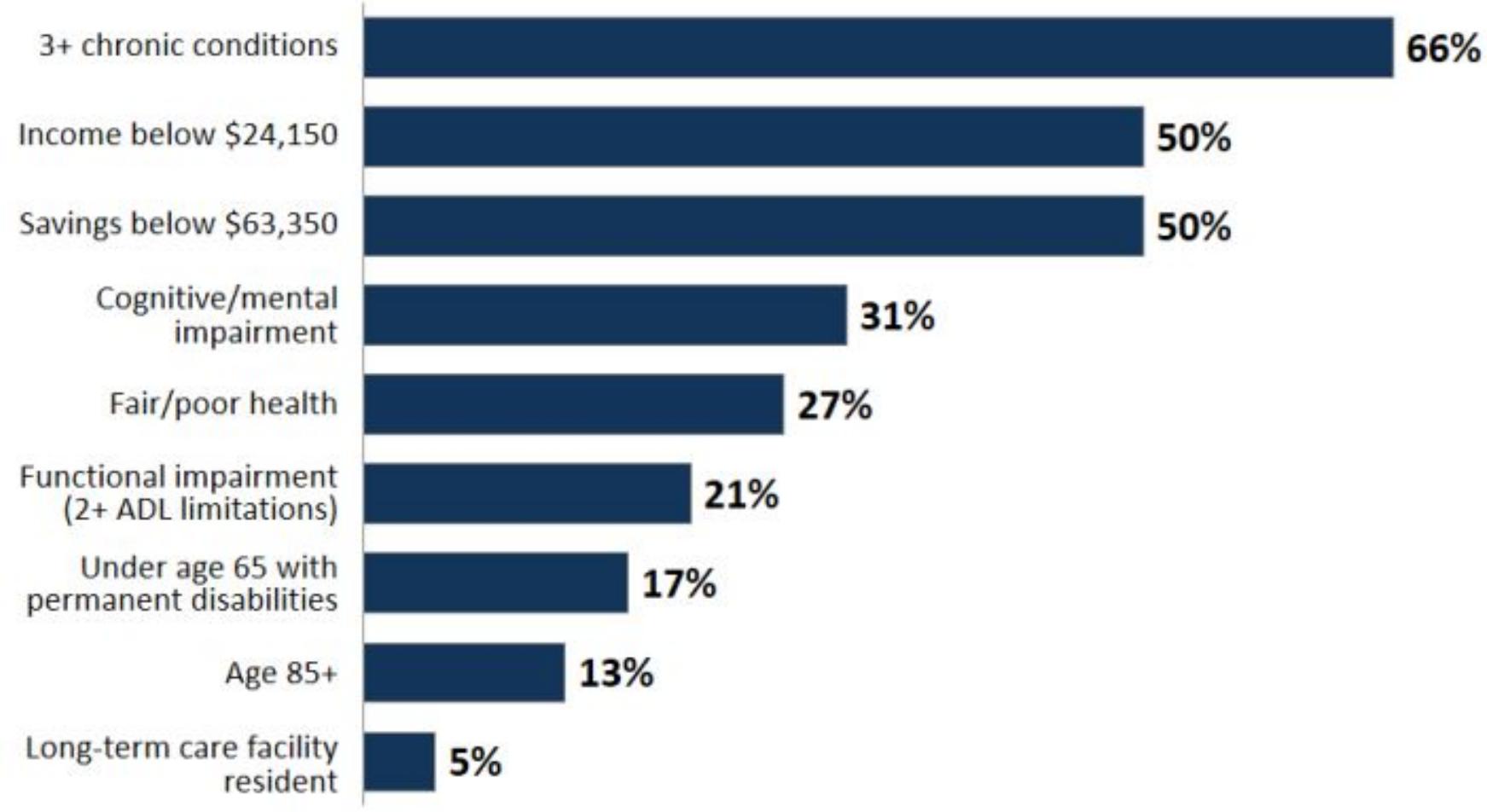
Figure 1

Characteristics of the Medicare Population

Percent of total Medicare population:



NOTE: ADL is activity of daily living.

SOURCE: Kaiser Family Foundation analysis of the Centers for Medicare & Medicaid Services Medicare Current Beneficiary 2011 Cost and Use file.; Urban Institute and Kaiser Family Foundation analysis, 2015 (for income and savings).

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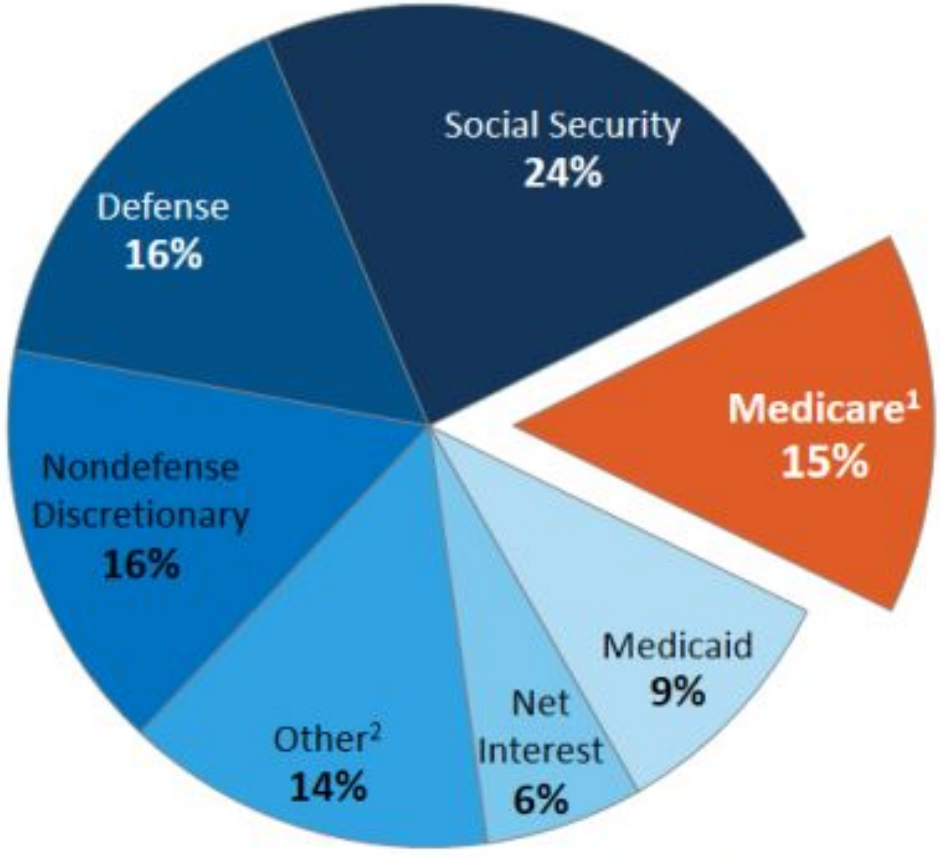
Medicare as a Share of the Federal Budget, 2015



Total Federal Outlays, 2015: $3.7 trillion

Net Federal Medicare Outlays, 2015: $540 billion

NOTE: All amounts are for federal fiscal year 2015. [1]Consists of mandatory Medicare spending minus income from premiums and other offsetting receipts. [2]Includes spending on other mandatory outlays minus income from offsetting receipts.
SOURCE: Congressional Budget Office, Updated Budget Projections: 2016 to 2026 (March 2016).

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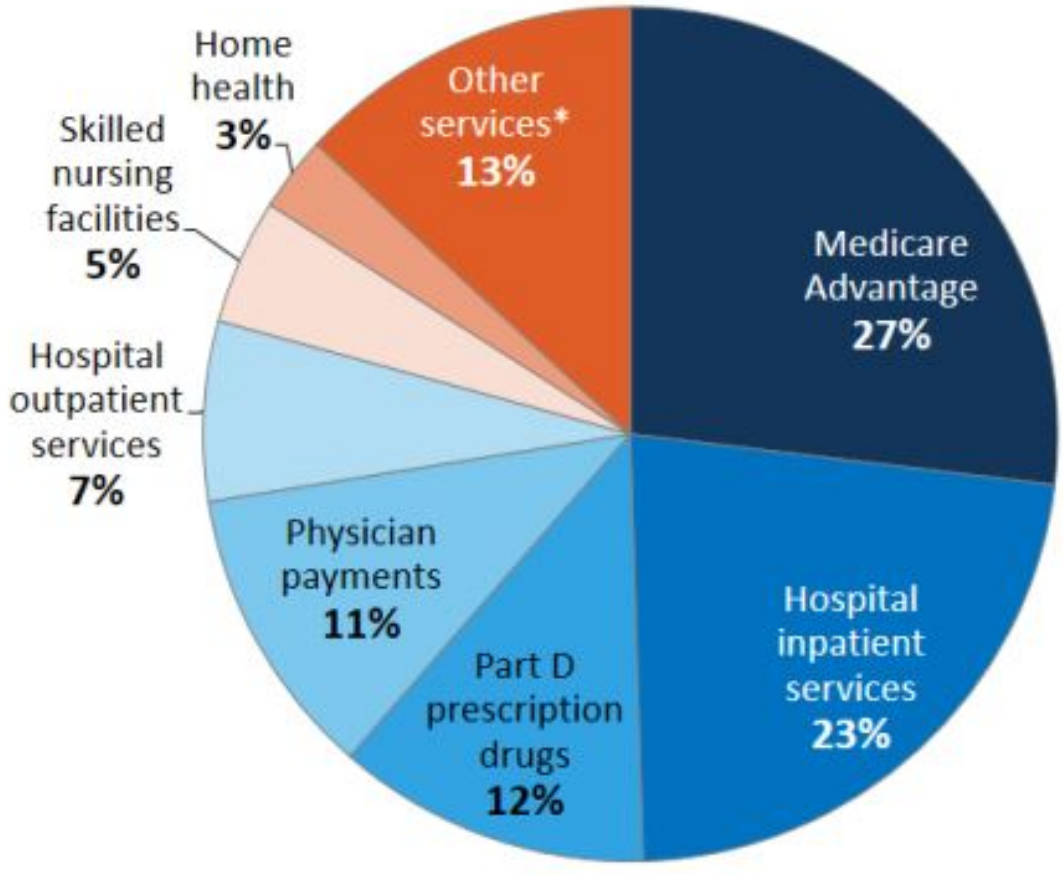
Medicare Benefit Payments by Type of Service, 2015



Total Medicare Benefit Payments, 2015: $632 billion

NOTE: *Consists of Medicare benefit spending on hospice, durable medical equipment, Part B drugs, outpatient dialysis, ambulance, lab services, and other Part B services; also includes the effect of sequestration on spending for Medicare benefits and amounts paid to providers and recovered.

SOURCE: Congressional Budget Office, 2016 Medicare Baseline (March 2016).

Four Parts of Medicare

1. Part A: Hospital Insurance
2. Part B: Supplementary Medical Insurance
3. Part C: Medicare Advantage
4. Part D: Prescription Drug Benefits

Medicare Part A

- The original form of Medicare.
- Generally goes automatically to persons age 65 and over who are entitled to Social Security.
- Similarly, those who have received disability benefits through the SSDI program for a qualifying period of at least 24 months get Part A benefits.
- In 2010, Part A benefit payments totaled $244.50 billion to 47.1 million enrollees. The average annual benefit per enrollee was $5,187.

Medicare Part A

Part A coverage includes:

- Inpatient hospital care, requiring an initial deductible payment, plus copayments for all hospital days following day 60 within a benefit period.
- Skilled nursing facility (SNF) care, which generally is covered by Part A only if it is within 30 days of a hospitalization of three or more days and certified as medically necessary.
- Home Health Agency (HHA) care, including care provided by a home health aide.
- Hospice, which is provided to those terminally ill persons with a life expectancy of six months or less and who elect to forgo standard Medicare benefits and receive only hospice care.

Medicare Part B

Supplementary Medical Insurance (SMI) benefits are available to almost all resident citizens age 65 and over. Part B coverage is optional and requires payment of a monthly premium.

Part B covers:

- Physicians' and surgeons' services.
- Some covered services furnished by chiropractors, podiatrists, dentists, and optometrists.
- Services in an emergency room or outpatient clinic, including same-day surgery, and ambulance services.
- Other services including clinical laboratory tests, X-rays, diagnostic tests, and other services not supplied by Part A.

Medicare Part D

Part D provides subsidized access to prescription drug insurance coverage on a voluntary basis upon payment of a premium. Part D includes most FDA approved prescription drugs. For an additional premium, plans might also offer supplemental coverage exceeding the value of basic coverage. In 2010, Part D provided $61.7 billion in benefits to 34.5 million enrollees.

Annual premiums vary by plan, but consider a typical moderate coverage at $40 per month or $480 per year. In 2011, there was a $310 annual deductible. After the deductible, Part D covers 75% of all incremental expenditures up to $2,840

Medicare Part D

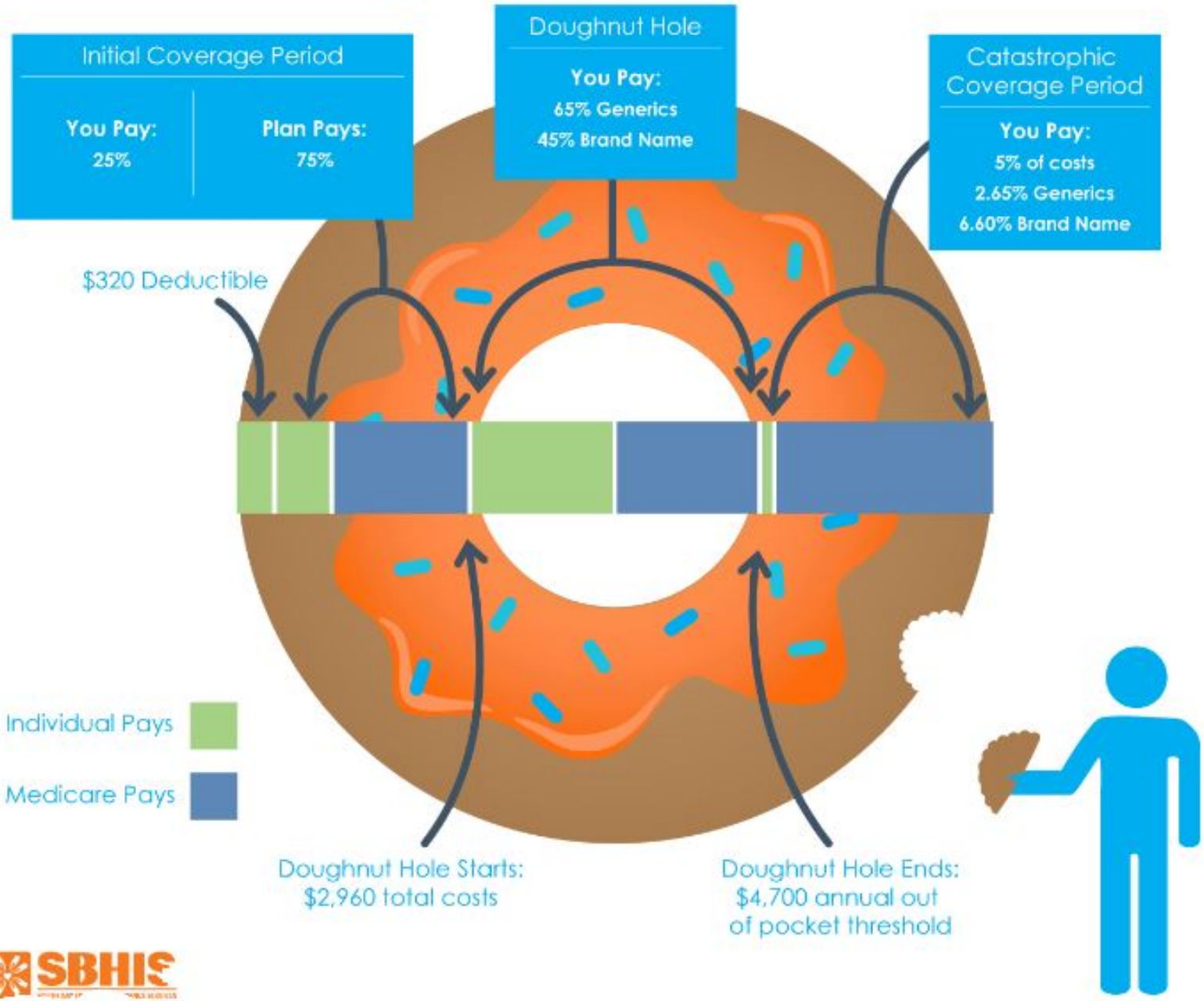
A very controversial feature of Part D is the so-called "doughnut hole," i.e. for charges exceeding $2,840 in 2011, there is an extremely high copayment rate for brand name drugs (actually 100% in some cases). For all consumption past a catastrophic threshold of $4,550, enrollees have to pay only 5% out-of-pocket.

The doughnut hole was created as a cost-saving mechanism that encourages the elderly to shop around for the best drug prices, for example they might consume cheaper generic versions of a drug as opposed to the more expensive brand-name version.

The ACA actually closes the doughnut hole. By 2020, seniors will be responsible for only 25% of payments up to the catastrophic point, after which they are responsible for only 5%.

Doughnut Hole

Original Medicare with Part D



Medicare Part C

While all Medicare beneficiaries can receive their benefits through the original fee-for-service program, most choose different forms of service delivery by participating in a Medicare Advantage (Part C) plan instead. Organizations that seek to contract as Medicare Advantage plans must meet specific organizational, financial, and other requirements.

Primary Medicare Advantage plans are:

- Coordinated care plans, which include HMOs, PSOs, PPOs, and other certified coordinated care plans and entities that meet the standards set forth in the law.
- Private, unrestricted fee-for-service plans, which allow beneficiaries to select certain private providers.

Standard Medicare does not cover long-term nursing care, custodial care, and certain other health care needs such as dentures and dental care, eyeglasses, and hearing aids. These services may, however, be a part of some Medicare Advantage plans.

Medicare Part C

In Medicare Part C (Medicare Advantage), private insurance companies cover seniors and are reimbursed at fixed rates for coverage.

- Companies are paid per enrollee per month.
- Companies must take all applicants in a given county.

Medicare Advantage usually operates through some HMO type system with Part D prescription drug coverage.

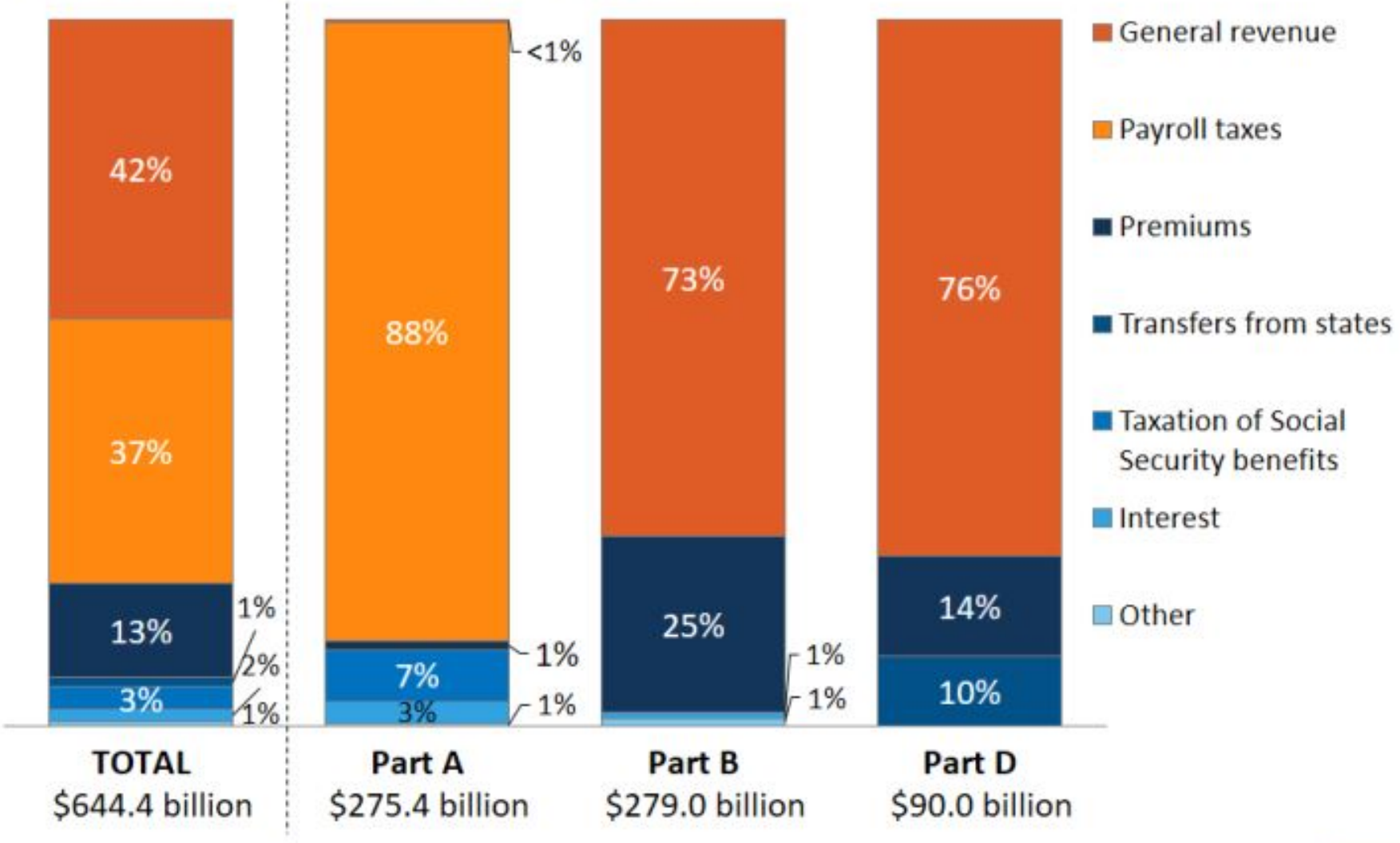
Part C usually has higher deductibles and copay than traditional A+B coverage.

Medicare Advantage often offers more comprehensive coverage than standard Medicare. Also, most Medicare Advantage plans will typically offer some maximum out-of-pocket expenditure limit each year, which may seem appealing to a lot of beneficiaries.

Medicare Financing

- Medicare Part A is financed primarily through a mandatory payroll deduction (FICA tax). The FICA tax is 1.45% of earnings (paid by each employee and also by the employer) or 2.90% for self-employed persons.
- Medicare Part B is financed through premium payments and contributions from a trust fund held by the U.S. Treasury. Premiums paid by beneficiaries covers about 25% of the cost of Part B, while general tax revenue covers the remaining 75% of the cost.
- Medicare Part D is funded the same as Part B, through premium payments and contributions from the Treasury general fund.
- Medicare Part C provides benefits through A, B, and D.

Sources of Medicare Revenue, 2015



NOTE: Data are for the calendar year.
SOURCE: 2016 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds, Table II.B1.

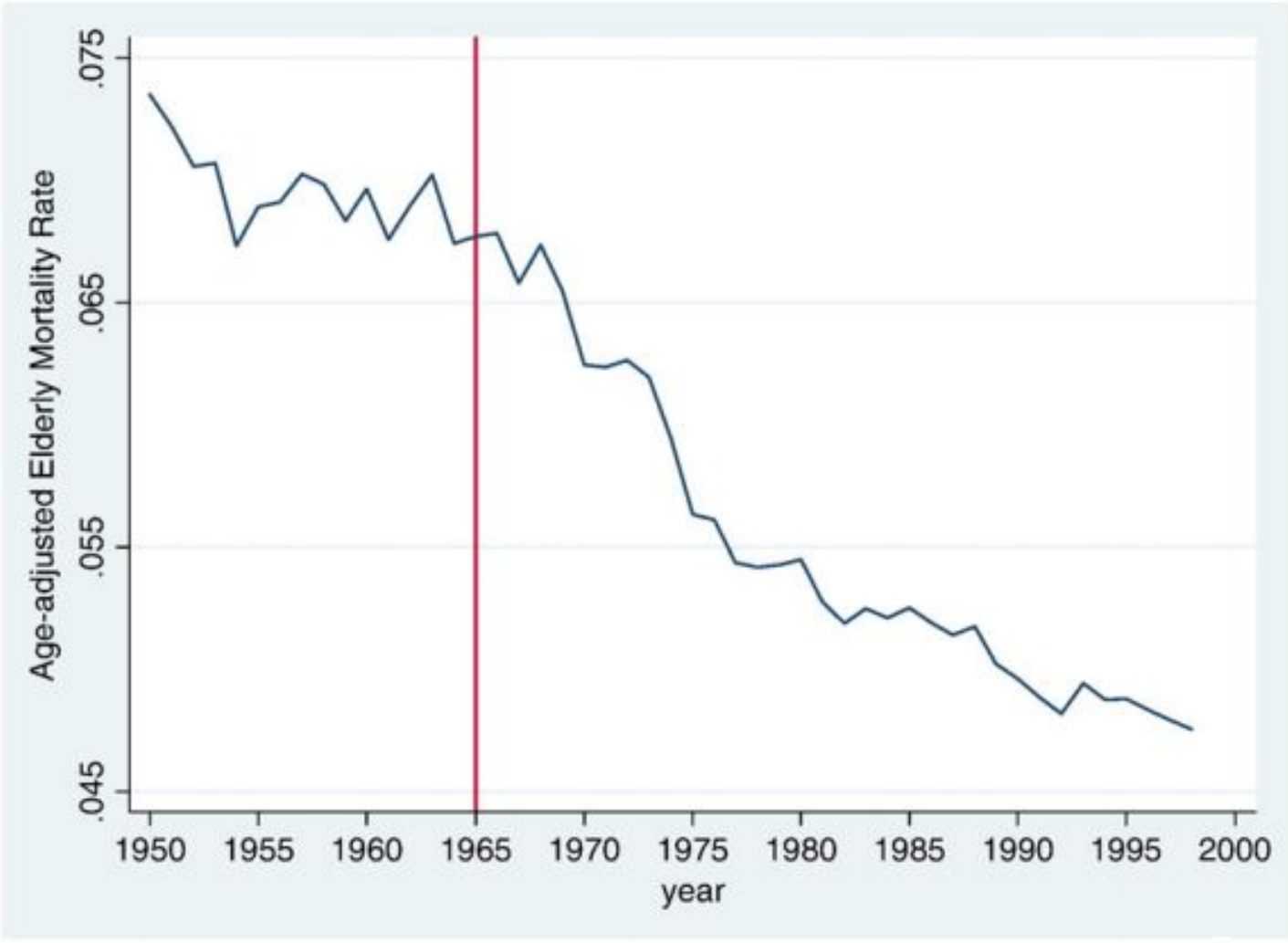
How did Medicare Effect Mortality?

Finkelstein and McKnight (2008)

"What did Medicare do? The Initial Impact of Medicare on Mortality and Out-of-Pocket Medical Spending" *Journal of Public Economics*

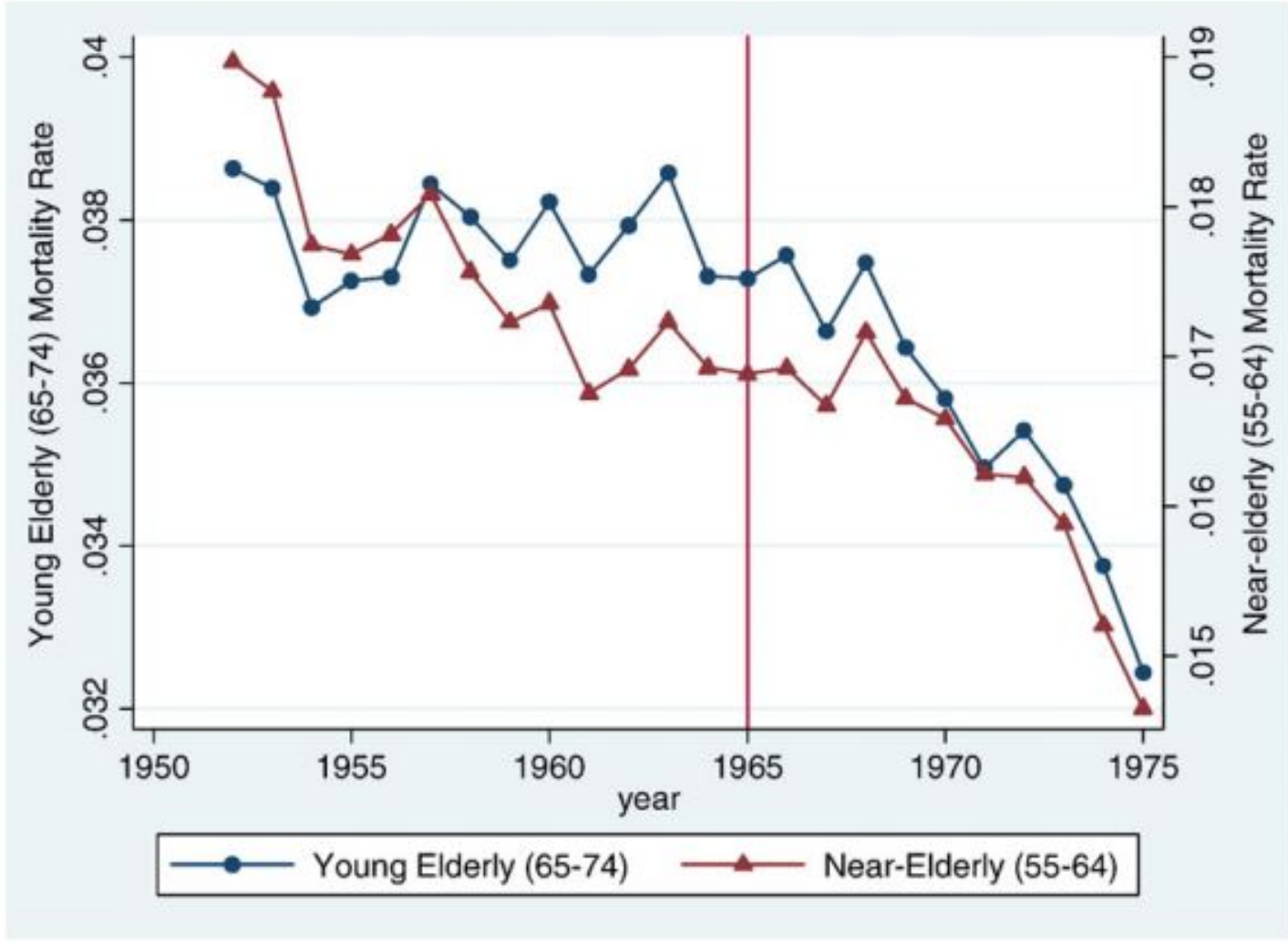
Was the large decline in the elderly mortality rate after 1965 due to the introduction of Medicare? Moreover, how did Medicare effect out-of-pocket medical expenditure risk for the elderly?

Finkelstein and McKnight (2008)



Elderly mortality rates across time.

Finkelstein and McKnight (2008)



Elderly and near-elderly mortality rates across time.

Finkelstein and McKnight (2008)

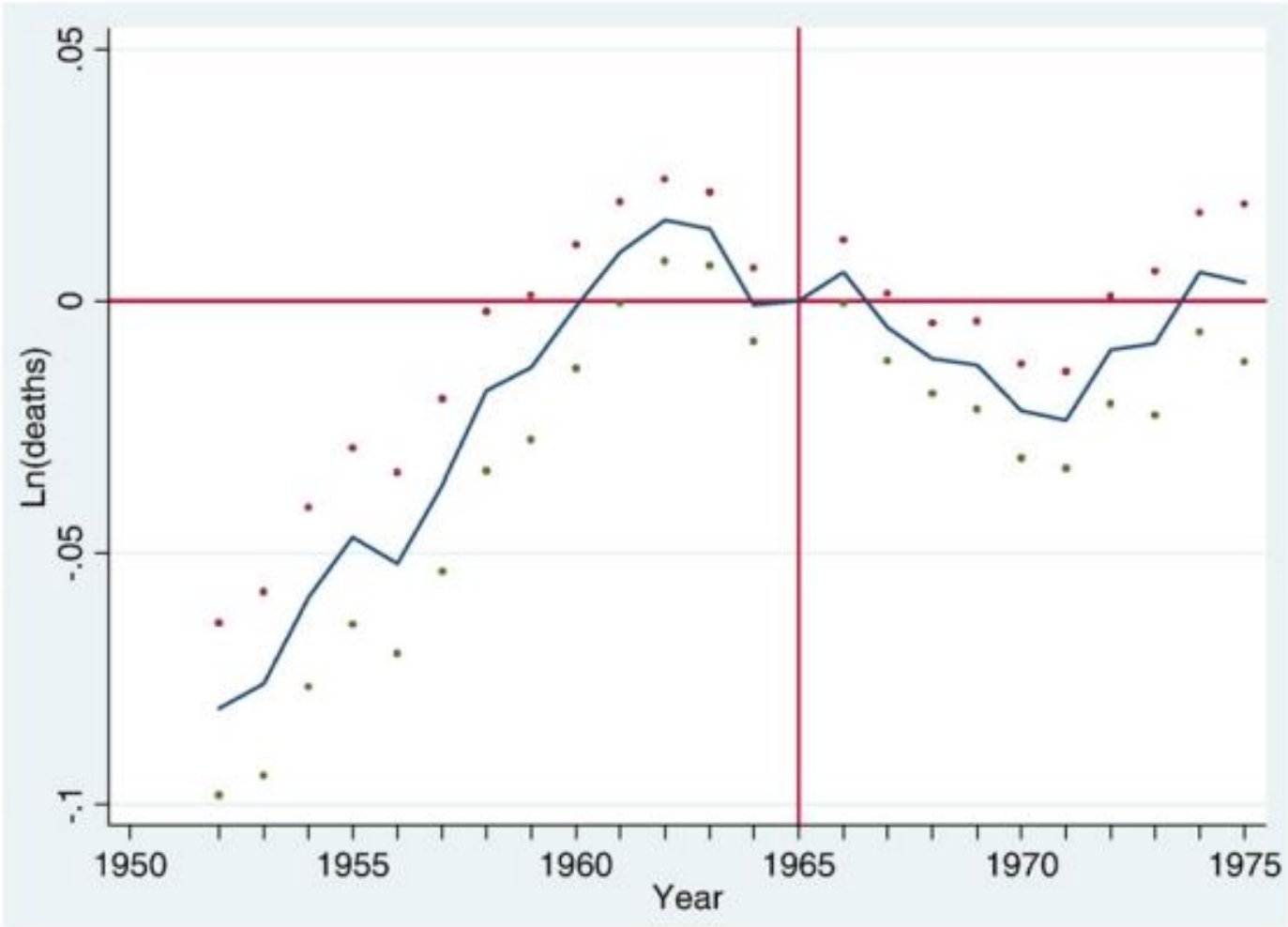
Did Medicare reduce mortality rates for the young elderly compared to the near elderly. Here, the young elderly is the treatment group and the near elderly is the control or reference group. Data is at the aggregated state-level. The empirical specification takes the form:

$$ln(deaths) = \beta_1 ln(population) + \beta_2 elderly + \sum_{t=1952}^{t=1975} \lambda_t (elderly) * (Year) + \varepsilon$$

they also include a control for Medicaid coverage rates, as well as state and time fixed effects.

The coefficients of interest (the λ_t's) shows the trend in deaths of the young elderly group compared to the near elderly group.

Finkelstein and McKnight (2008)



Result: Medicare seemingly had no influence on the mortality rates of the elderly population relative to the near elderly. The observed decline began prior to Medicare, and ceased after 1970.

Finkelstein and McKnight (2008)

They perform a separate analysis by using the fact that in order for a hospital to qualify for Medicare funding, they had to be racially desegregated. As a result, the creation of Medicare increased non-whites' access to hospitals in segregated parts of the south. They estimate the model:

$$deaths = county_{FE} + Year_{FE} + \lambda(Medicare_{certified}) + \varepsilon,$$

where λ measures the effect of having at least 1 Medicare-certified hospital in the county.

Table 2
Estimated effect of having at least 1 Medicare-certified hospital in the county

	All causes of death		Deaths from pneumonia		Deaths from cardiovascular disease	
	Log-linear	Linear	Log-linear	Linear	Log-linear	Linear
Panel A: Non-White						
Certified	0.00025 (0.027)	−0.001 (0.002)	−0.345*** (0.137)	−0.001** (0.0003)	0.060 (0.043)	0.001 (0.002)
ln(pop'*n*)	0.446** (0.211)		0.341 (1.185)		.190 (0.330)	
Mean of dependent variable	4.58	0.066	0.937	0.002	4.046	0.039
N	425	425	304	425	425	425
Panel B: White						
Certified	−0.009 (0.033)	0.0002 (0.002)	0.025 (0.118)	−0.00013 (0.00026)	0.026 (0.040)	0.001 (0.001)
ln(pop'*n*)	0.747*** (0.192)		1.464*** (0.520)		0.642*** (0.185)	
Mean of dependent variable	4.16	0.061	0.734	0.002	3.709	0.039
N	425	425	311	425	425	425

Note: Results are from estimating Eq. (3) on the 25 counties in the Mississippi Delta for non-white and white elderly. We follow Almond et al. (2003) in their definition of the Mississippi Delta counties. Standard errors in parentheses; we allow for an arbitrary covariance matrix within each county over time. Data are from 1959–1975 only, since data before 1959 are not available at the county level by race. *, **, *** denotes significance at the 10%, 5%, and 1% levels, respectively.

While Medicare seemed to have no effect on mortality among whites, it did seem to slightly lower pneumonia-related deaths among non-whites, perhaps due to the desegregation traits of Medicare eligibility. Hence, it may be having legal access to a hospital that impacted mortality as opposed to insurance coverage.

Finkelstein and McKnight (2008)

They also estimate the effects of Medicare on out-of-pocket expenditure risk. They use a difference-in-differences strategy with two years of individual-level data: 1962 and 1970. The treatment group is the elderly age group in 1970, while the control group is the non-elderly. Their DD model takes the form:

$$spending = \gamma X + \beta_1 elderly + \beta_2 1970 + \beta_3 (elderly * 1970) + \varepsilon,$$

where the coefficient of interest is β_3 and it captures the differential change in spending between 1963 to 1970 for individuals aged 65 to 74 relative to individuals aged 55 to 64. The vector X contains covariates including age, age squared, sex, marital status, and education.

Table 4
Changes in average Medicare-eligible expenditures

	Out of pocket spending	Private insurance spending	Total (public+private) insurance spending	Total spending
Panel 1: All spending				
Elderly*Year1970	−117.3 (106.5)	−507.1*** (97.0)	259.0* (150.2)	142.3(204.7)
Elderly	−110.6 (139.1)	−32.9 (118.7)	−156.8 (168.7)	−274.28 (240.30)
Year1970	4.73 (67.3)	562.08*** (95.93)	724.91*** (103.6)	714.14*** (137.21)
Panel 2: Hospital (Part A)				
Elderly*Year1970	−44.7 (89.8)	−465.9*** (87.6)	127.5 (133.84)	85.3 (171.1)
Panel 3: Physician (Part B)				
Elderly*Year1970	−72.58** (34.1)	−41.2* (23.3)	131.5*** (32.3)	57.0 (53.9)

Note: Table reports the coefficients from estimating Eq. (4) by OLS on a sample of 55 to 74 year olds. Panel 1 reports the results for all Medicare-eligible spending (i.e. hospital plus physician spending); in addition to the variables reported in the table, the regressions also include age and age squared, and indicator variable for male, married, and education group (6 years of school of less, between 6 and 12 years of school, or 12 or more years of school). Panels 2 and 3 report the results separately for hospital spending and physician spending; although to preserve space the coefficient on only one variable is reported, the regression analysis contains the exact same set of covariates as in Panel 1. Robust standard errors in parentheses. ***, **, * denote significance at the 1%, 5% and 10% levels respectively. All estimates are in year 2000 dollars. N=2,834

Medicare did not have huge effects on mean out-of-pocket expenditure.

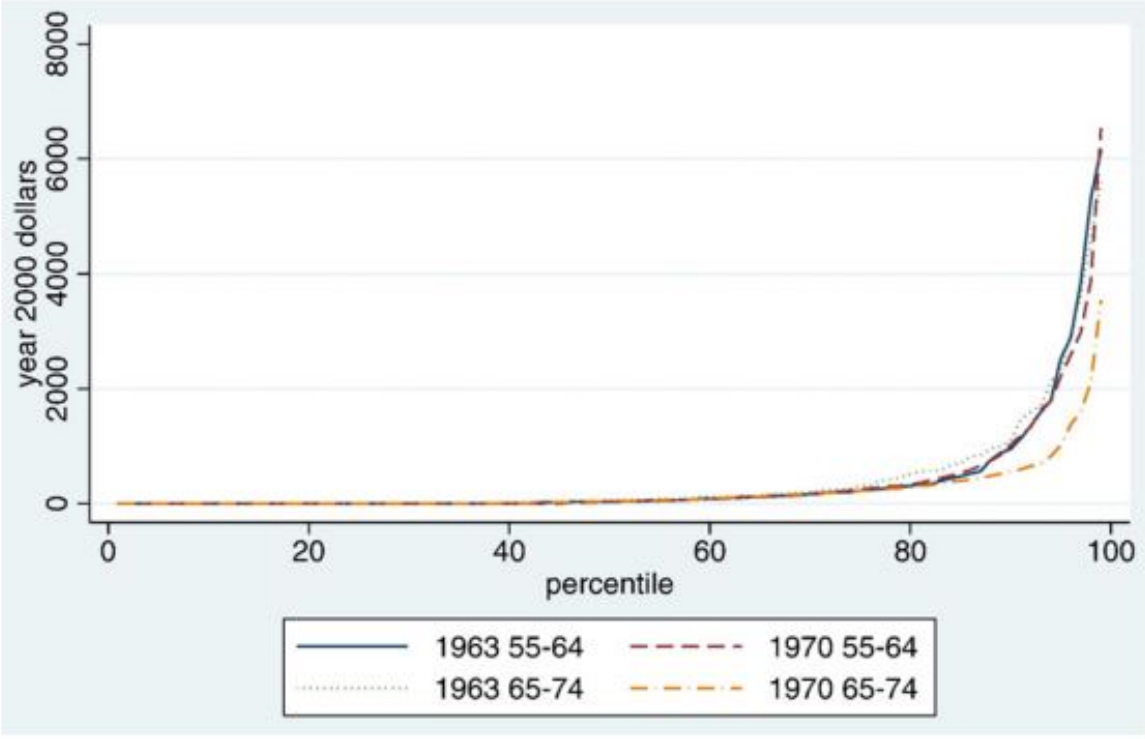


Fig. 6. Centiles of Medicare-eligible out of pocket spending by age group and year.

Medicare did have significant reductions in out-of-pocket expenditure of individuals in the right-tail of the spending distribution (i.e. Medicare lowered the out-of-pocket spending of 'big spenders').

Does Medicare Improve Health?

Card et al. (2009) "Does Medicare Save Lives?" *The Quarterly Journal of Economics*

Uses National Health Interview Survey (NHIS) data from 1999-2003.

Card et al. (2009)

- Health insurance characteristics shift at age 65 as most people become eligible for Medicare.
- Perhaps if patients are covered by Medicare, hospitals are more likely to admit the individual into the hospital overnight, perform extra procedures such as medical screening (mammogram), or perform specialized surgical procedures (coronary bypass surgery, hip and knee replacement, etc.)
- Perhaps this extra preferential treatment of Medicare patients improves the health outcomes of beneficiaries.
- Focuses on unplanned admissions through the emergency department for "non-deferrable" conditions. The decision to go to an emergency department for these conditions is unlikely to depend on insurance status.

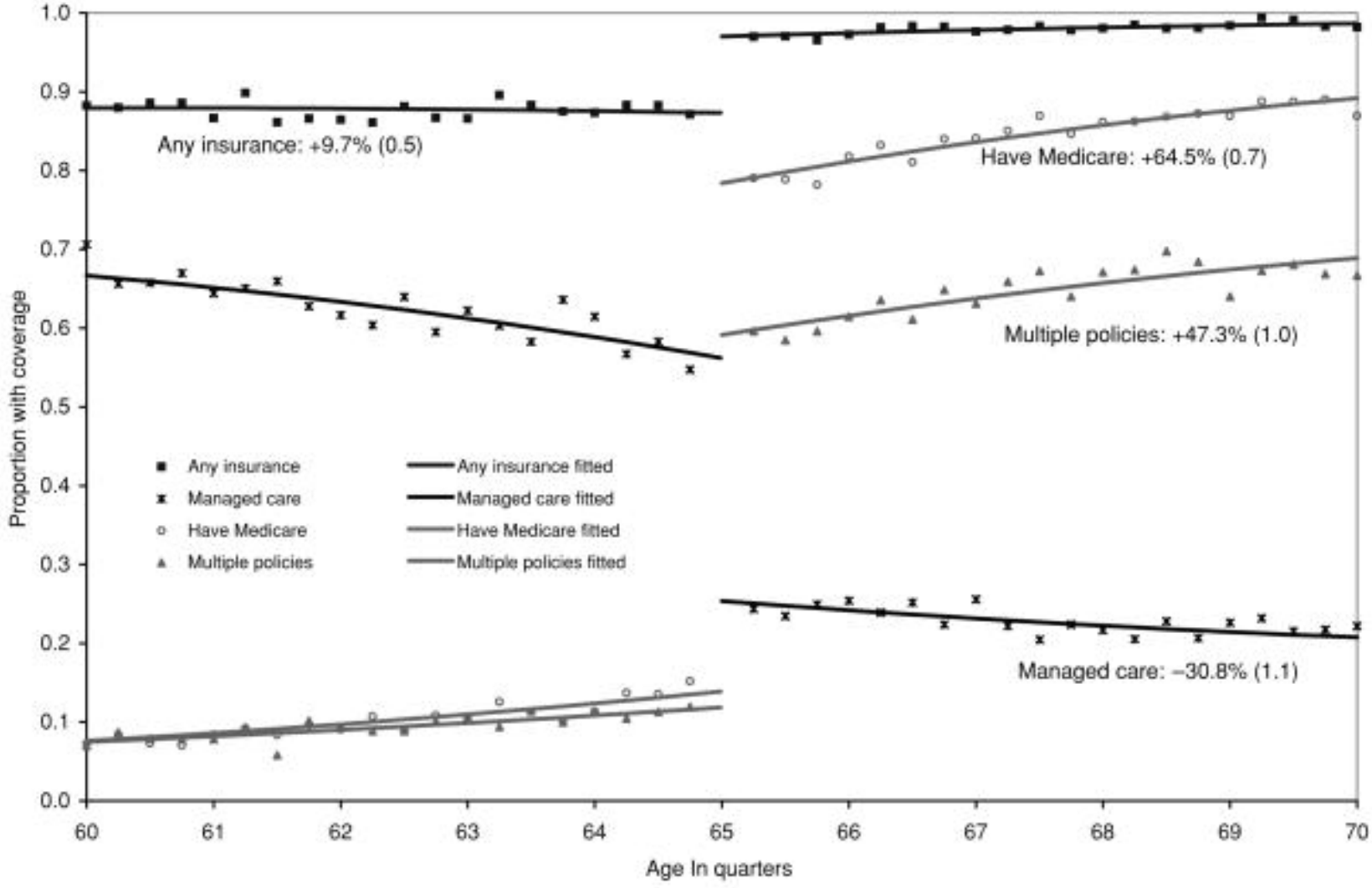
Card et al. (2009)

Use a Regression Discontinuity Design to study whether Medicare patients receive preferential treatment, and if they do, how this effects health outcomes. Their model takes the form:

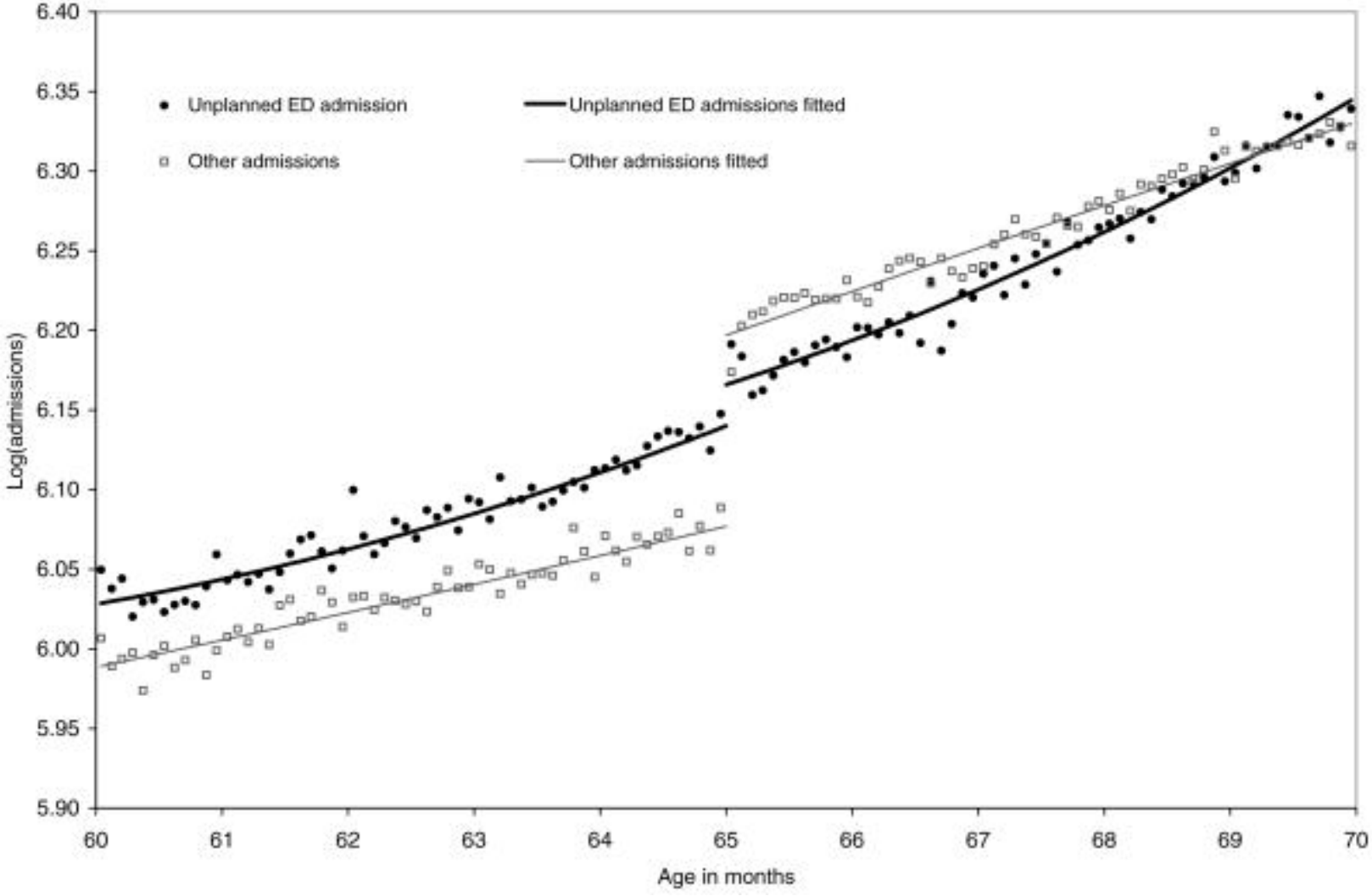
$$y_i = f(a_i, \alpha) + Post65_i\beta + \varepsilon_i,$$

where y represents a health-related outcome for patient i, a_i represents the patient's age (measured in days from his or her 65th birthday), f(·) is a function that is continuous at age 65 with parameter vector α (e.g., a flexible polynomial), $Post65_i$ is an indicator for whether the patient has passed his or her 65th birthday.

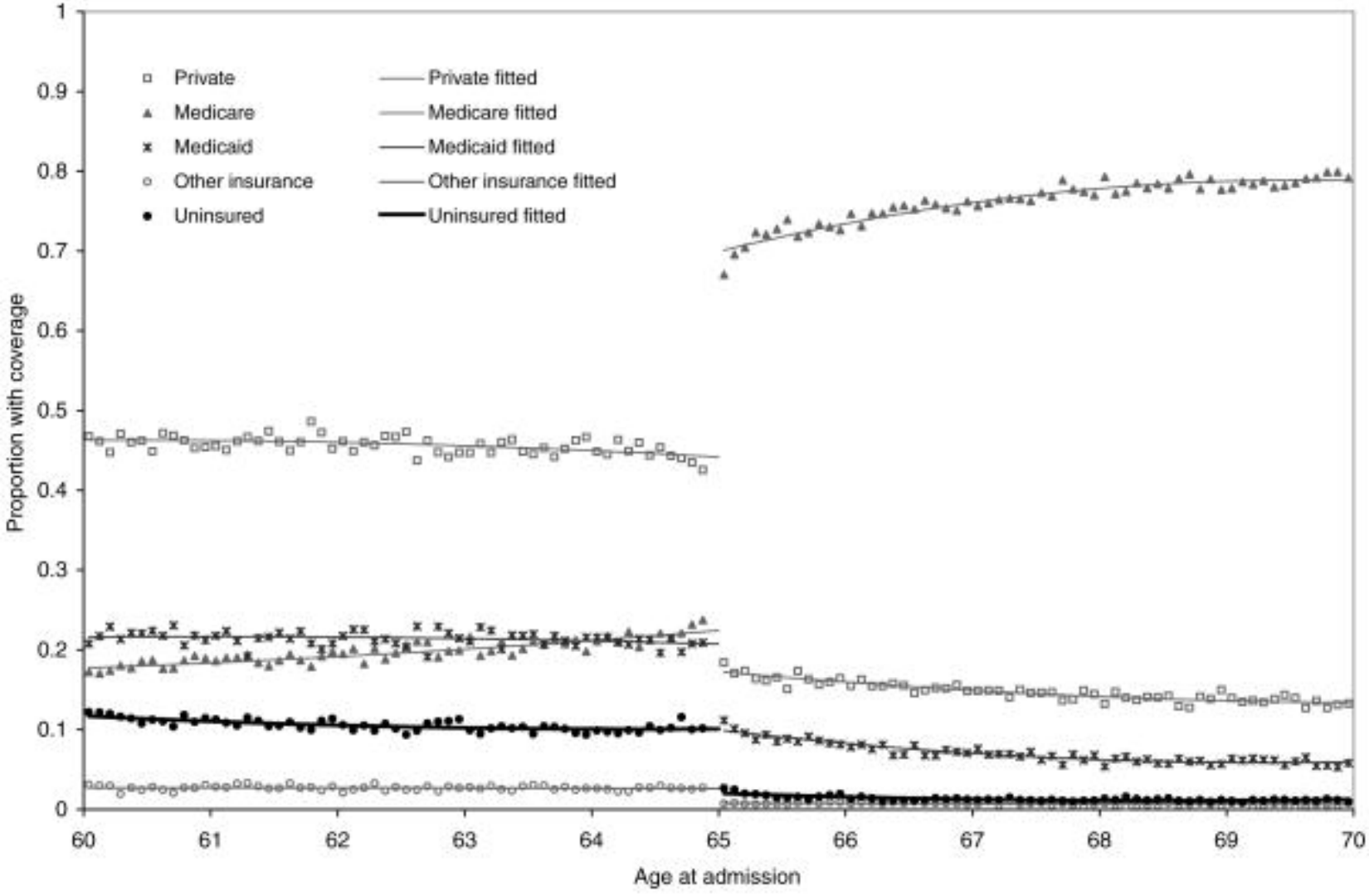
Note that the discontinuity here is the age 65. They are essentially separating observations into two groups: those not yet 65 and those recently turning 65. β is the coefficient of interest and is interpreted as the causal effect of Medicare coverage on the likelihood of death in that time interval.



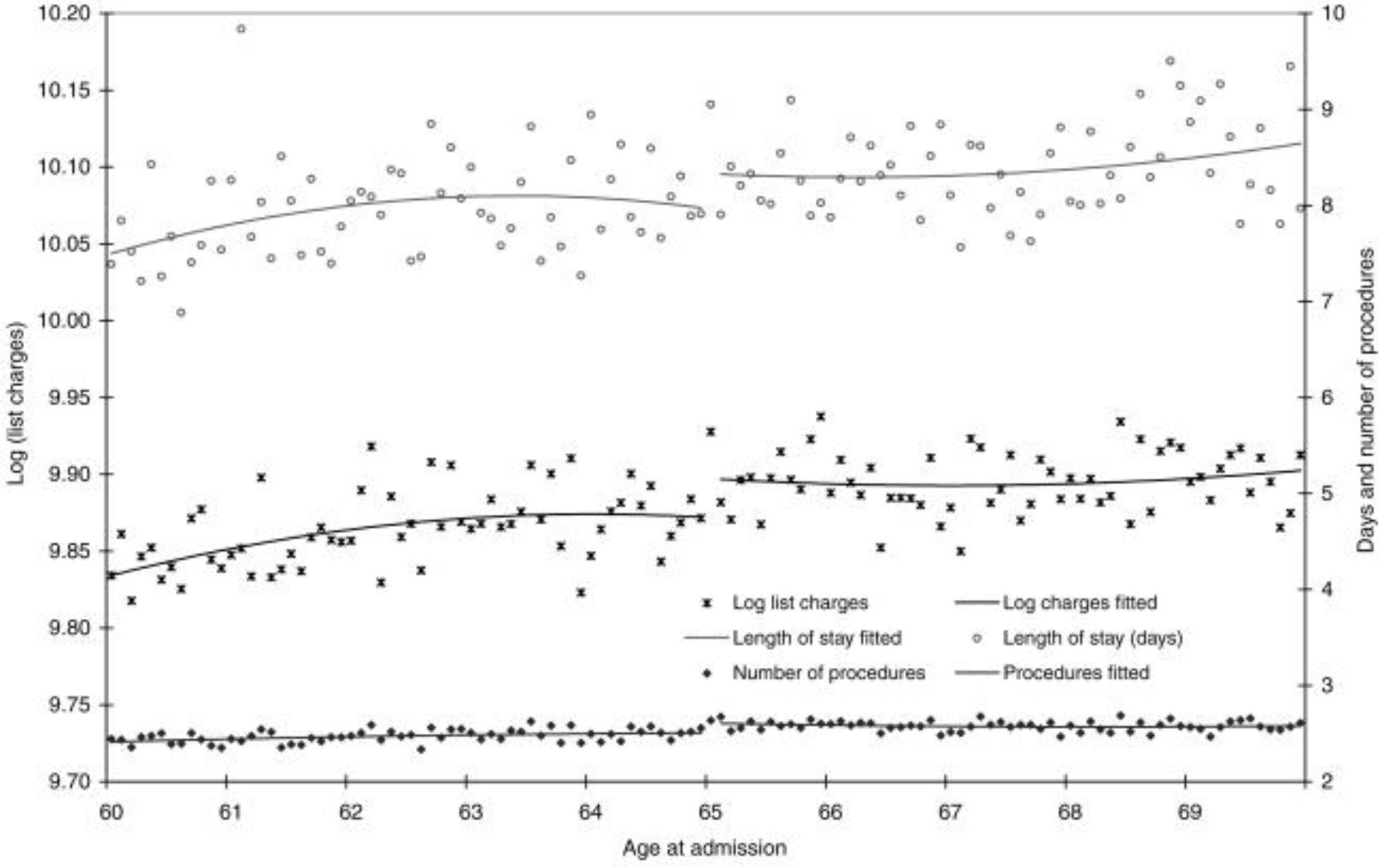
Effects of Medicare on insurance coverage. Those with any insurance increased substantially, as did those with multiple policies. Those in MCO plans decreased.



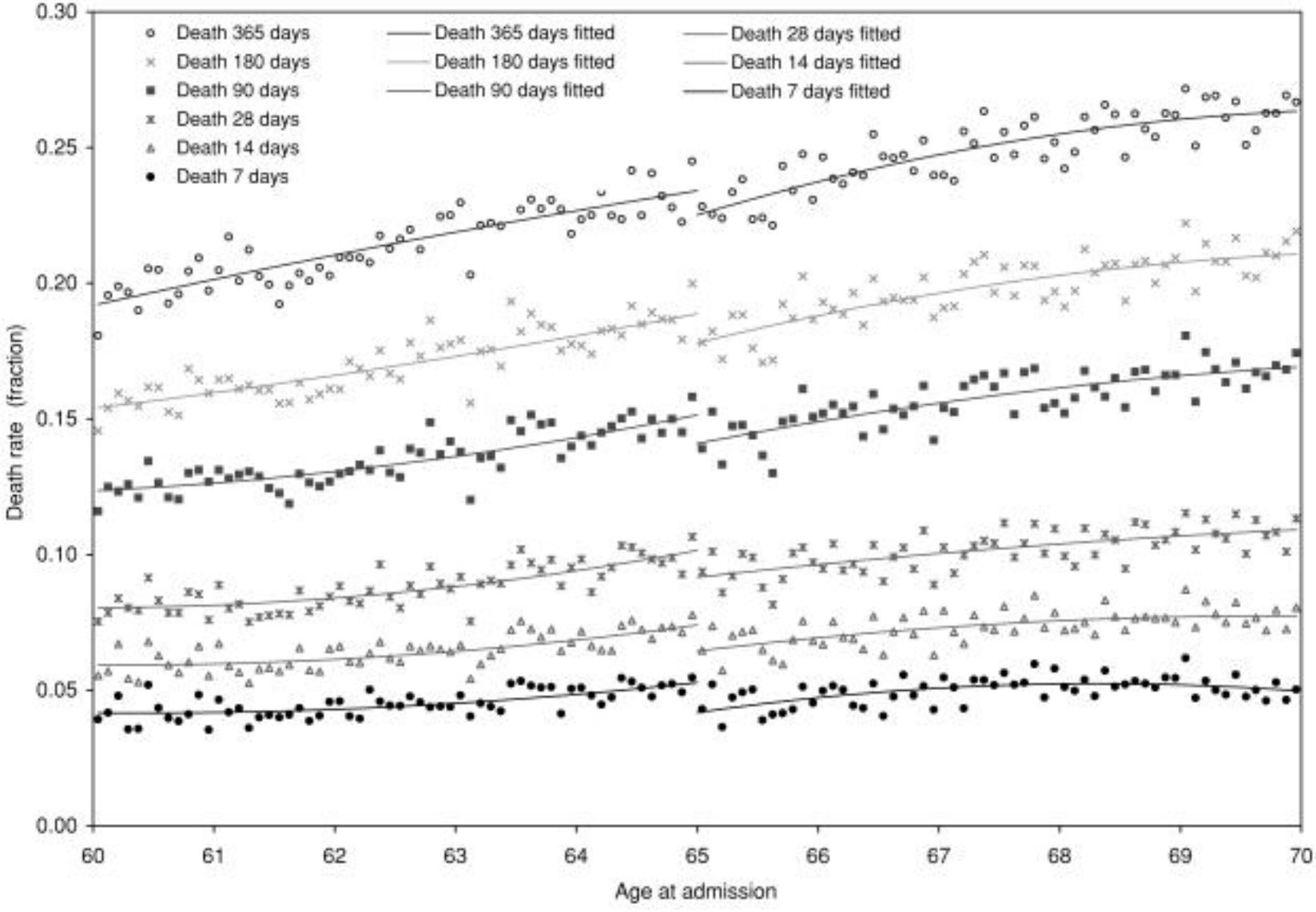
Effects of Medicare on hospital admissions and emergency department admissions. Though emergency department visits increase slightly for those 65 and older, the increase is not nearly as dramatic as the increase in other admissions.



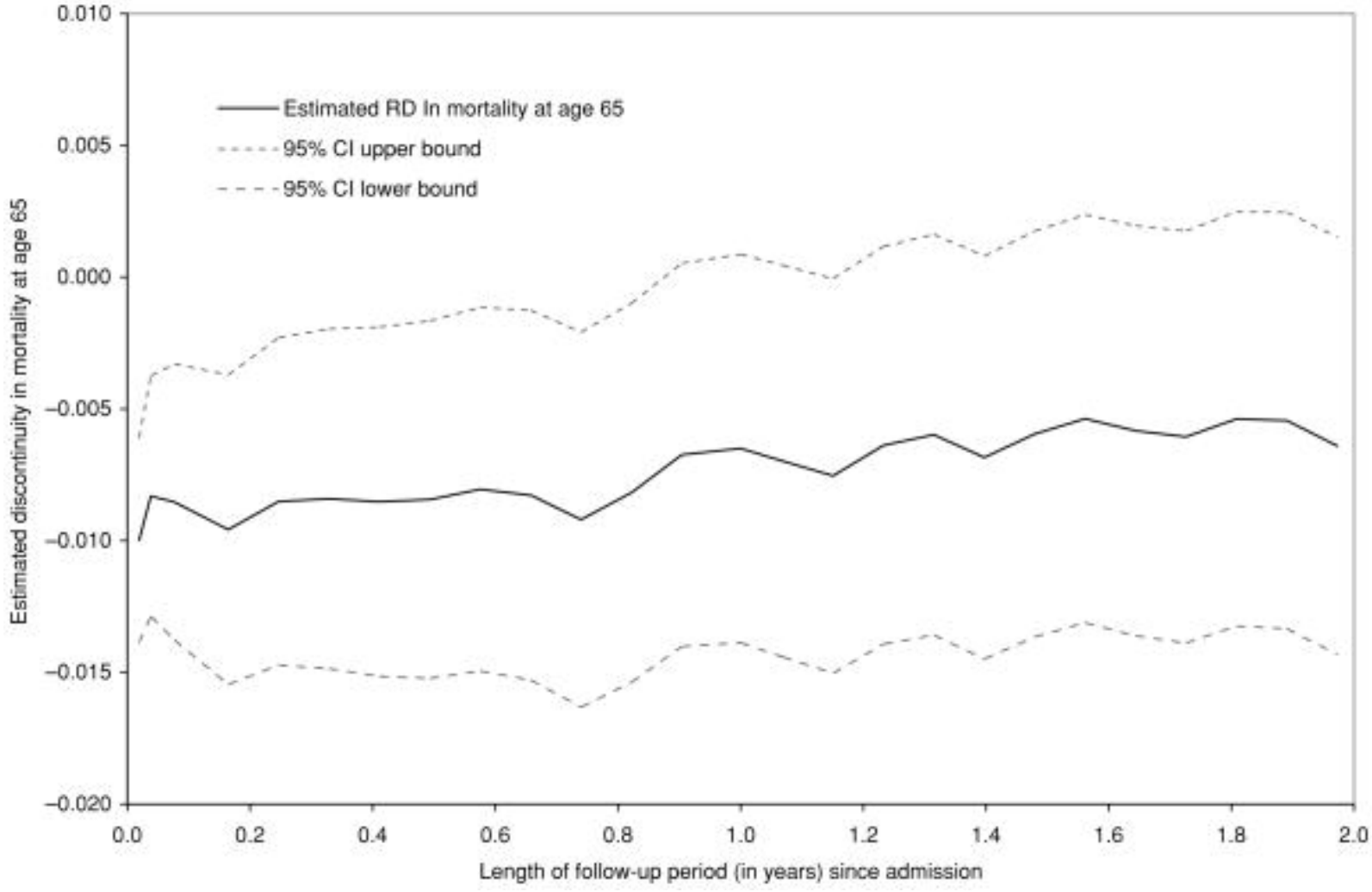
Effects of Medicare on other forms of insurance coverage. Those with private insurance and other insurance decreased, as did the uninsured.



Effects of Medicare on Treatment Intensity. Medicare enrollment increased the length of stay as well as the list of charges, indicating more intense treatment.



Effects of Medicare on Mortality. Medicare lowered mortality rates across all the different death-day categories.



Estimated regression discontinuity in mortality two years since initial admission. The data show a 0.1 percentage point reduction in mortality for those newly admitted to Medicare.

Card et al. (2009)

Summary:

- Hospitals do seem to offer preferential treatment to those covered by Medicare.
- This preferential treatment leads to higher levels of treatment intensity and increases the probability of inpatient care.
- Due to this preferential treatment, there is a 0.1 percentage point reduction in mortality for those newly admitted to Medicare. This translates to a 14-20% reduction in 7-day mortality, a 7-9% reduction in 28-day mortality, and a 2-4% reduction in 1-year mortality relative to death rates among 64-year-olds with similar conditions at admission.
- Hence, perhaps Medicare does save lives.

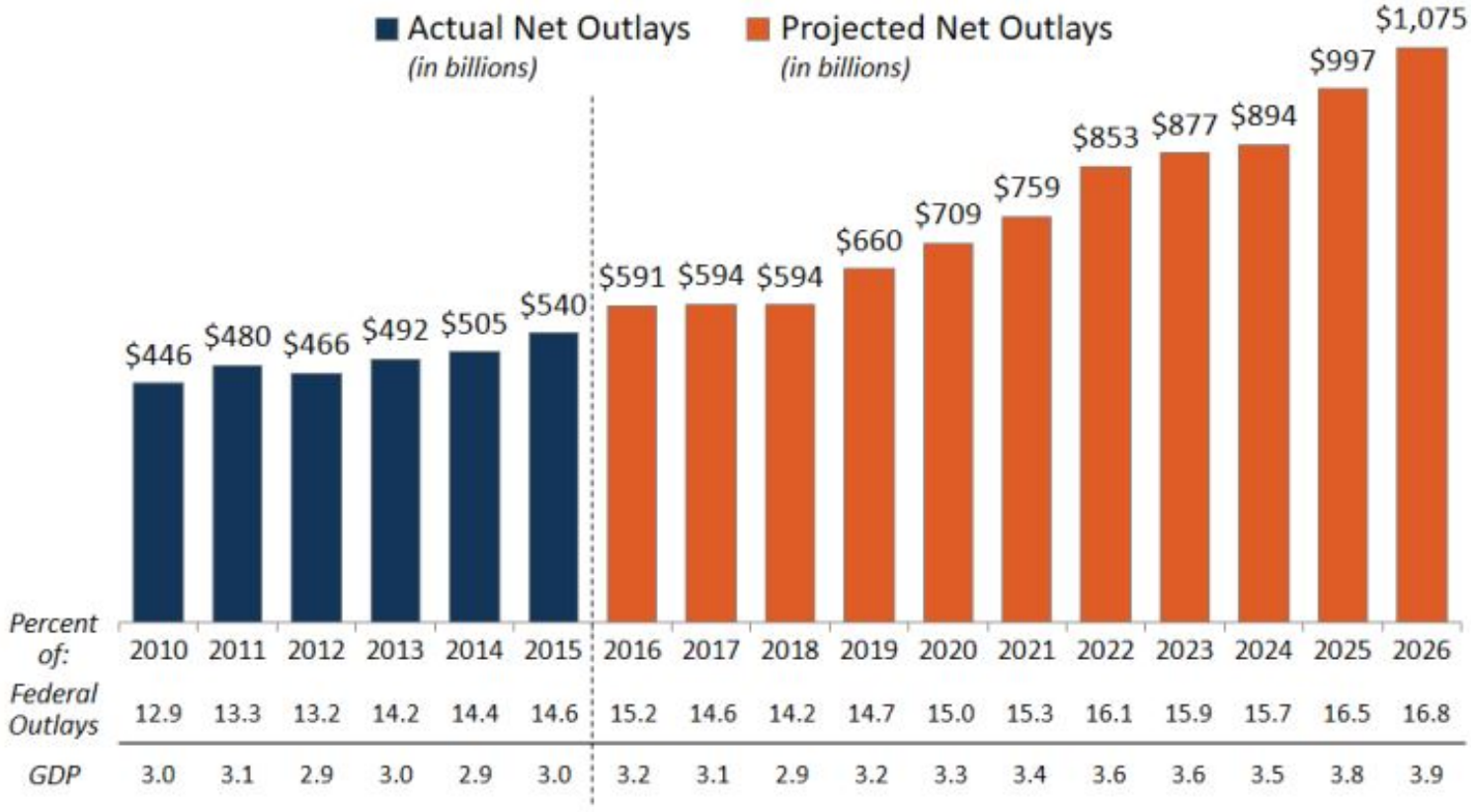
Future of Medicare

There are a number of concerns with Medicare going forward.

1. Rising costs of Medicare across time.
2. An aging population.
3. Life expectancy is going up, and people spend more on health care during end-of-life years.
4. As our population ages, we have less workers to tax.

Figure 4

Actual and Projected Net Medicare Spending, 2010-2026



NOTE: All amounts are for federal fiscal years; amounts are in billions and consist of mandatory Medicare spending minus income from premiums and other offsetting receipts.
SOURCE: Congressional Budget Office, Updated Budget Projections: 2016 to 2026 (March 2016); March 2016 Medicare Baseline.

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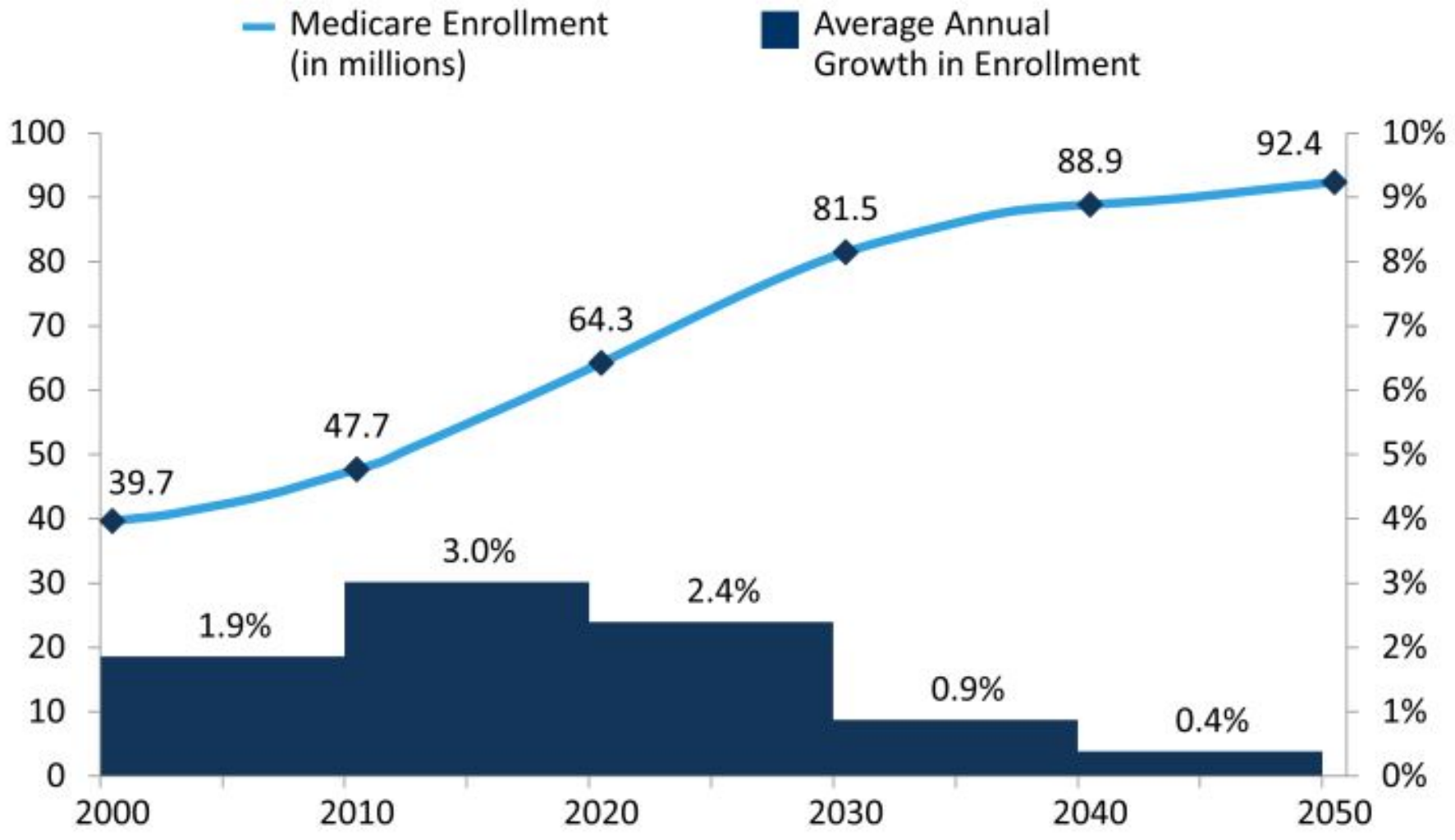
Projected Change in Medicare Enrollment, 2000-2050



SOURCE: 2013 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds.

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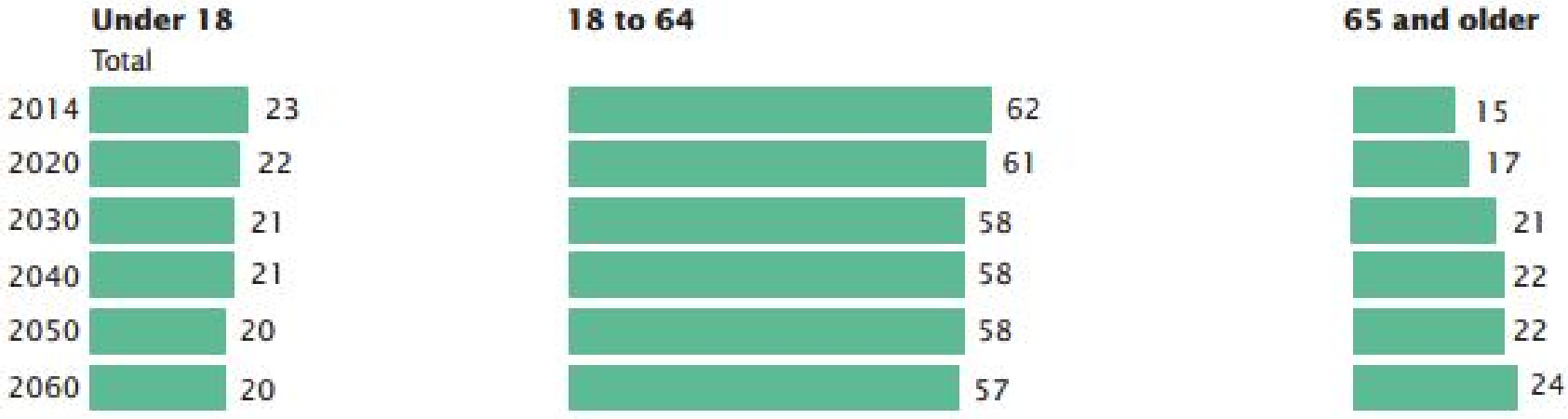
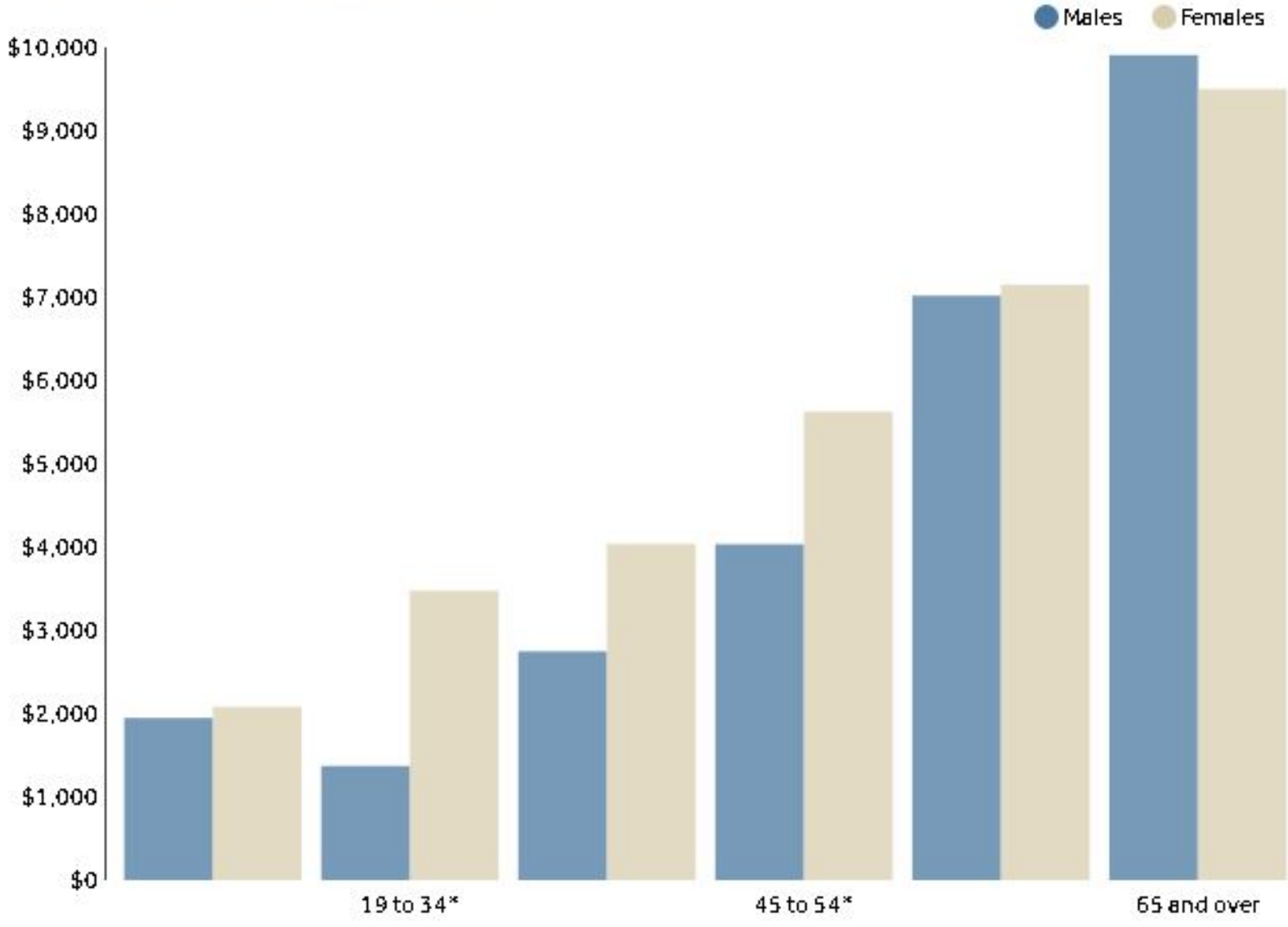
Figure 4.

Age Distribution of the Population by Nativity: 2014 to 2060

(Percent of group's total population)



Average health spending by age and gender, 2013



Policy Options

So we have an aging population, life expectancy is improving across time, and most health care spending occurs during later life years. Moreover, the ratio of working aged individuals to the elderly is decreasing across time, so we have less people to tax going forward. What are some potential policy options to deal with such concerns?

- We could raise the eligibility of Medicare from 65 to 67. This would save an estimated $113 billion over ten years (William N. Evans).
- Some are concerned that costs would simply shift onto other government programs.

Policy Options

- We could raise Part B and Part D premiums. Raising enrollees costs from 25% to 35% would save $241 billion over ten years (William N. Evans).
- We could raise Medicare payroll taxes from 2.9% to 3.9% for everyone, with an additional 0.9% tax for high wage earners (more than $200,000 for individuals or $250,000 for couples). This would raise $651 billion in tax revenue over ten years.

Next Class

Medicaid (Ch. 21 FGS)