Health Effects of Health Insurance

Health Economics II

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Overview of Miller et al.

Medicaid and Mortality: New Evidence from Linked Survey and Administrative Data
Sarah Miller, Norman Johnson, and Laura R. Wherry (2021)

Households that earn less than 138% of the Federal Poverty Level (FPL) experience higher risks of dying from

- diabetes (787%)
- cardiovascular disease (552%)
- respiratory disease (813%)

Utilize nonuniform adoption of ACA expansion to examine the effects of increased access to health insurance on health outcomes

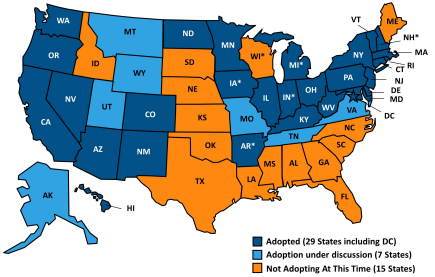
Miller et al.

Data comes from

- American Community Survey (ACS) 2008-2013
- Numident 2014-2017
- Mortality Disparities in American Communities (MDAC) project 2008-2015

Figure 6

Status of Medicaid Expansion Decisions, February 1, 2015



NOTES: Under discussion indicates executive activity supporting adoption of the Medicaid expansion. *AR, IA, IN, and MI have approved Section 1115 waivers. WI covers adults up to 100% FPL in Medicaid, but did not adopt the ACA expansion.
SOURCE: "Status of State Action on the Medicaid Expansion Decision," KFF State Health Facts
http://kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/

TABLE I

EFFECT OF THE ACA EXPANSIONS ON COVERAGE AND MORTALITY: DIFFERENCE-IN-DIFFERENCES ESTIMATES

	Medicaid eligibility (1)	Any Medicaid coverage in year (2)	Days of Medicaid in year (3)	Cumulative Medicaid years experienced (4)	Uninsured (5)	Died in year (6)
Difference-in-differences model						
Expansion × post	0.498 (0.026)***	0.128 (0.020)***	42.99 (8.89)***	0.375 (0.061)***	−0.044 (0.010)***	−0.00132 (0.00050)**
Event study model						
Year 3	0.493 (0.032)***	NA	NA	0.671 (0.082)***	−0.039 (0.012)***	−0.00208 (0.00083)**
Year 2	0.511 (0.026)***	0.128 (0.028)***	43.33 (9.78)***	0.472 (0.065)***	−0.050 (0.010)***	−0.00131 (0.00056)**
Year 1	0.500 (0.025)***	0.129 (0.021)***	50.79 (12.49)***	0.305 (0.047)***	−0.053 (0.011)***	−0.00119 (0.00044)***
Year 0	0.510 (0.022)***	0.115 (0.020)***	33.74 (7.27)***	0.128 (0.021)***	−0.038 (0.006)***	−0.00089 (0.00036)**
Year −1 (omitted)	0	0	0	0	0	0
Year −2	0.010 (0.006)*	−0.008 (0.006)	−2.33 (2.05)	−0.018 (0.011)	0.002 (0.006)	0.00015 (0.00047)
Year −3	0.009 (0.010)	−0.008 (0.010)	−3.45 (3.75)	−0.029 (0.021)	0.001 (0.006)	−0.00029 (0.00053)
Year −4	0.008 (0.010)	−0.006 (0.010)	−0.49 (2.78)	−0.038 (0.030)	−0.007 (0.009)	0.00011 (0.00069)
Year −5	0.008 (0.011)	−0.004 (0.013)	0.35 (3.59)	0.053 (0.036)	0.000 (0.009)	0.00091 (0.00069)
Year −6	0.006 (0.011)	−0.015 (0.021)	−2.86 (5.58)	0.077 (0.045)*	−0.003 (0.015)	−0.00021 (0.00070)
N (Individuals × year)	714,673	3,493,000	3,493,000	4,000,000	714,673	4,030,000
N (Individuals)	714,673	566,000	566,000	566,000	714,673	566,000

TABLE II

EFFECT OF THE ACA EXPANSIONS ON COVERAGE AND MORTALITY: CAUSE OF DEATH

	Deaths from internal causes (1)	Deaths from health care–amenable causes (2)	Deaths from external causes (3)
Difference-in-differences model			
Expansion × post	−0.00235	−0.00099	0.00038
	(0.00675)***	(0.00050)*	(0.00020)*
Event study model			
Year 1	−0.00221	−0.00041	0.00010
	(0.00126)*	(0.00082)	(0.00039)
Year 0	−0.00209	−0.00103	0.00025
	(0.00108)*	(0.00075)	(0.00032)
Year −1 (omitted)	0	0	0
Year −2	−0.00053	0.00065	−0.00007
	(0.00083)	(0.00053)	(0.00034)
Year −3	0.00088	0.00014	−0.00007
	(0.00104)	(0.00072)	(0.00044)
Year −4	−0.00044	−0.00008	−0.00032
	(0.00112)	(0.00082)	(0.00038)
Year −5	0.00075	0.00047	−0.00022
	(0.00095)	(0.00074)	(0.00037)
Year −6	0.00071	0.00023	−0.00060
	(0.00106)	(0.00062)	(0.00035)
N (Individuals × year)	683,000	683,000	683,000
N (Individuals)	88,500	88,500	88,500

Largest negative estimates for deaths relating to:

- cancer
- endocrine and metabolic diseases
- cardiovascular and circulatory system diseases
- respiratory diseases

Overview of Goldin et al.

Health Insurance and Mortality: Experimental Evidence from Taxpayer Outreach
Jacob Goldin, Ithai Z. Lurie, and Janet McCubbin (2021)

- 21-26% of Americans lack insurance coverage for one or more months during the year
- 6.1 million 2015 tax returns reported owing a positive penalty under the ACA
- IRS sent 86% of these taxpayers a letter explaining the penalty and how to avoid it
- Several different types of intervention implemented in mid-January 2017
  - Baseline
  - Baseline without personalization
  - Baseline + exemption information
  - Early Baseline (November 2016)

Data comes from

- IRS administrative records
- Form 1095 January 2015 - December 2018
- Social Security Death File

TABLE II

COVERAGE EFFECT BY PRIOR-YEAR INSURANCE

	Full sample		Prior-year insured		Prior-year uninsured	
	Months of coverage (1)	Any coverage (2)	Months of coverage (3)	Any coverage (4)	Months of coverage (5)	Any coverage (6)
Panel A: All ages						
Treated	0.152	0.685	0.018	0.029	0.232	1.107
	(0.013)	(0.052)	(0.011)	(0.025)	(0.016)	(0.077)
Control mean	14.410	75.431	20.970	98.072	9.512	58.525
Observations	8,893,653	8,893,653	3,809,488	3,809,488	5,084,165	5,084,165
Panel B: Middle-aged adults						
Treated	0.271	1.286	0.052	0.040	0.358	1.831
	(0.024)	(0.105)	(0.022)	(0.053)	(0.026)	(0.135)
Control mean	12.286	65.223	21.189	97.869	7.795	48.753
Observations	2,047,778	2,047,778	688,795	688,795	1,358,983	1,358,983

TABLE IV

EFFECTS OF INTERVENTION AND COVERAGE ON MIDDLE-AGE MORTALITY

	Mortality (reduced form) (1)	Mortality (OLS) (2)	Coverage (first stage) (3)	Mortality (IV) (4)
Treated	−0.063		0.358	
	(0.025)		(0.026)	
Covered months		−0.026		−0.178
		(0.001)		(0.070)
Control mean	1.007	1.007	7.795	1.007
Observations	1,358,983	1,358,983	1,358,983	1,358,983

Alternate explanations:

- reduced penalties led to increased income
- intervention encouraged people to seek ESI
- intervention adjusted beliefs about costs and reduced stress
- sample participants were later enrolled in safety net programs

Mechanisms

1. Reduced delays between symptom onset and beginning treatment
2. Insured patients received more extensive treatment
3. Improved diagnosis of subacute conditions
4. Reduced stress

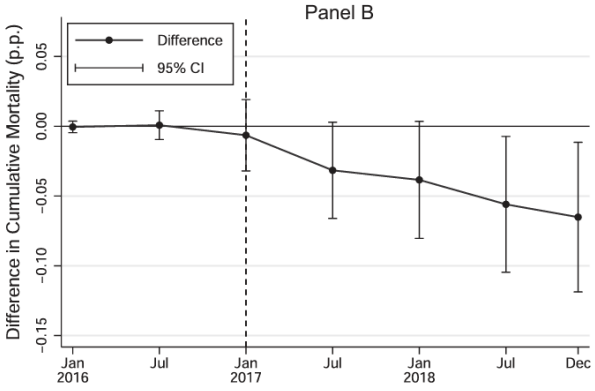


FIGURE III

Effect of Intervention on Middle Age Mortality

Conclusions

- health insurance has a negative impact on mortality rates, at least in the short-term
- estimated 15,600 deaths could have been averted with universal expansion of the ACA according to Miller et al.
- estimated 1 death per 1,587 treated people prevented by IRS outreach according to Goldin et al.

Discussion

Are there other mechanisms that may be responsible for the impact of health insurance on mortality?