Medicaid Expansions and Health Spending Growth

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Anna Cornelius-Schecter, Edward Kong, Maggie Zhou and other research assistants contributed a great deal to this project.

The 2.5 Trillion Dollar Question (and *Growing*!)

- Why are health care costs increasing?
- Technology
  - Newhouse (1992,1999): decomposes growth by insurance, income, and aging, and residual is technology
  - Insurance can explain about 1/10 of 700% increase from 1950 to 1980 (based on price elasticity from Rand HIE)
- Insurance could have greater role
  - Finkelstein (2007): examines the impact of the inception of Medicare in 1965 on hospital spending
  - Insurance can explain about 50% of the increase from 1950 to 1990

- Approach: use variation in Medicaid eligibility across time and states from inception to the present as a potential explanation for health spending growth

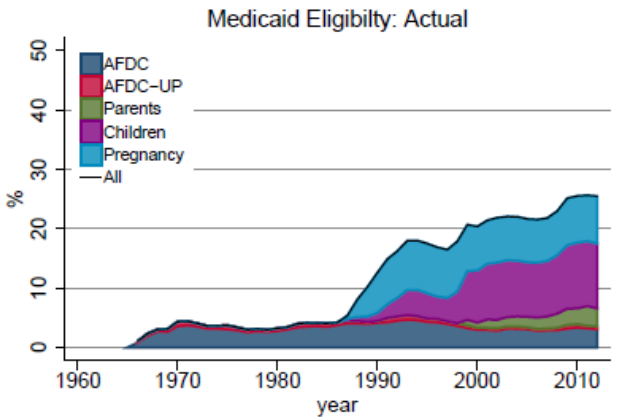
What is the role of insurance in explaining health spending growth?

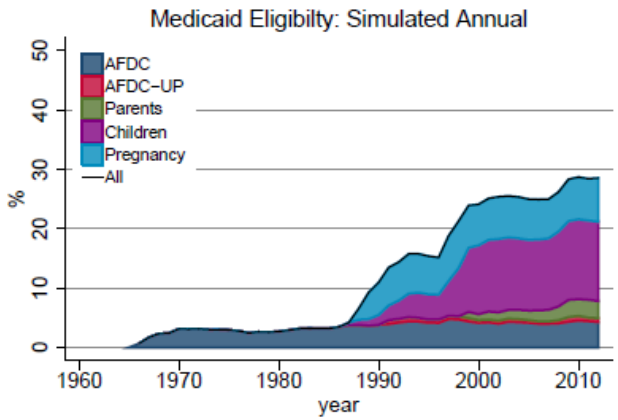
Examine State-level Growth in Response to Medicaid to Understand National Growth

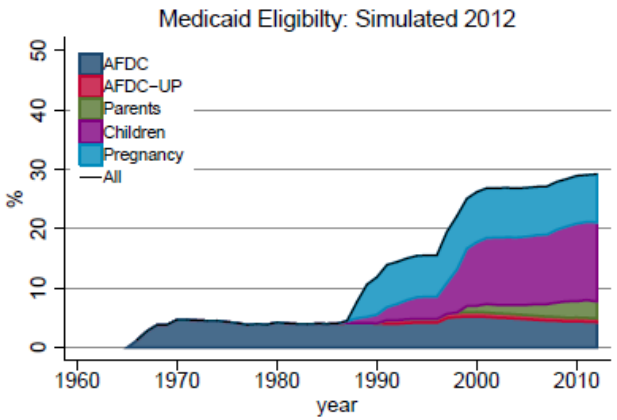
- Unite many strands of literature in health economics to better understand health spending growth
- *Regional Variation: Dartmouth*
  - Documents huge variation in Medicare spending at a point of time
- *Time Series Variation: Cross-National Comparisons*
  - Documents variation in growth across countries, US is outlier
- *Insurance Policy Variation Across States and Time*
  - Huge literature examines changes in response to state-level insurance policy (taking policy as exogenous) – Medicaid expansions following Currie and Gruber, my own work on Massachusetts health reform, Finkelstein on Medicare – one time

Outline for Today

- **Massive Data-Gathering Effort**
- Preliminary Results and Next Steps







- Medicaid Eligibility Calculator from 1966 (start of Medicaid) to the present
  - Earlier work focuses on shorter time periods, generally starting in the 1979 (Currie and Gruber)
  - Work near inception usually just examines staggered start date but not different thresholds by state
  - Literature generally focuses on one type of eligibility at a time
  - We apply the calculator to the CPS to isolate policy variation using simulation (in practice, does not make much of a difference in the national series)

Massive Data-Gathering Effort: Calculator

Maternal & Child Health Report July 1990

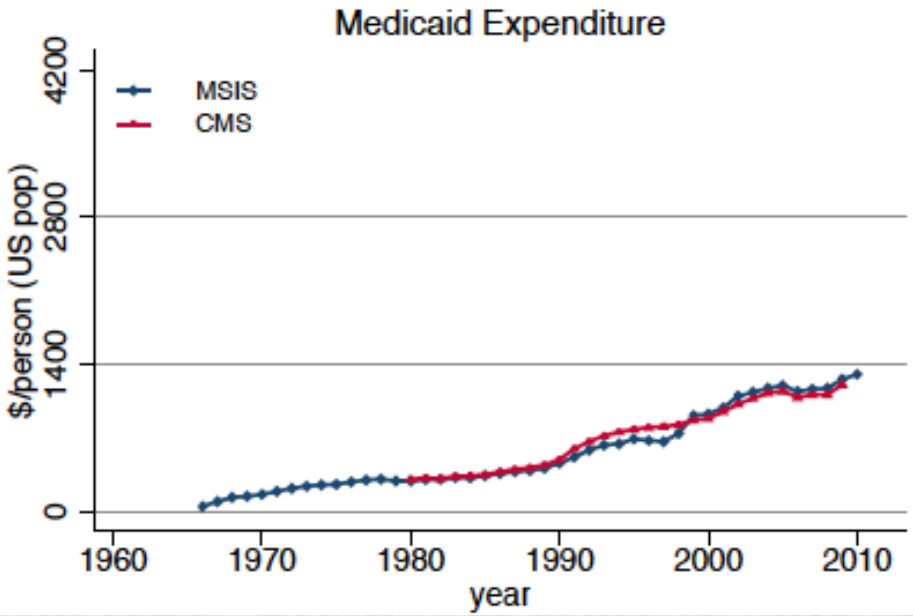
	PREGNANT WOMEN AND CHILDREN % OF POVERTY *	CHILDREN TO AGE 7 % OF POVERTY
Alabama	133%	
Alaska	133%	
Arizona	140%	
Arkansas	133%	
California	185%	100%
Colorado	133%	
Connecticut	185%	
Delaware	185%	100%
DC	185%	100%
Florida	150%	100%

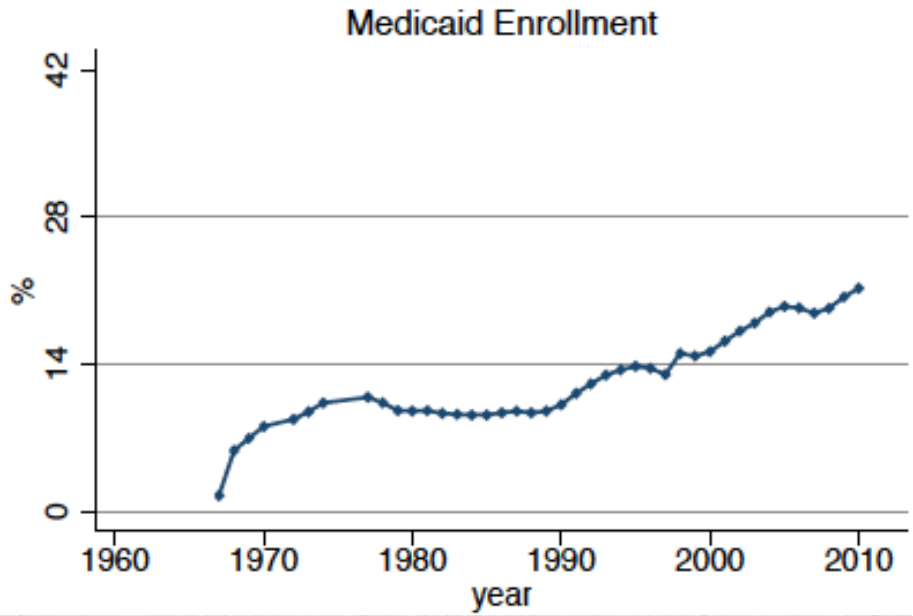
statename	Pregnant	Infants	Child 1-5	Child 6-18	maxage
Alabama	133	133	133		5
Alaska	133	133	133		5
Arizona	140	140	133		5
Arkansas	133	133	133		5
California	200	185	133	100	6
Colorado	133	133	133		5
Connecticut	185	185	133		5
Delaware	185	185	133	100	6
DC	185	185	133	100	6
Florida	150	150	133	100	6

The impact of the Omnibus Budget Reconciliation Act of 1989, however, was felt more widely by states. OBRA-89 mandated that all states, beginning April 1, 1990, cover pregnant women and children up to age six at 133 percent of the federal poverty level. As of that date, 32

Several states have further expanded coverage for pregnant women and children beyond Medicaid through state-funded programs. California covers pregnant women to 200 percent of the federal poverty level. The

Example: Pregnancy & Child Eligibility July 1990





- Administrative data on Medicaid – working on breakdown by age

Massive Data-Gathering Effort: Medicaid Expenditure and Enrollment

Massive Data-Gathering Effort: Health Spending

- Dig deeper into the health spending series to be explained
  - Economic Census (main component, taken every 5 years)
  - NHIS for outpatient visits in out of pocket spending (in process)
  - American Hospital Association (AHA) to examine real changes (Finkelstein used this too, but used 20 years and interpolated it through the 1990's. We have variation over time.)

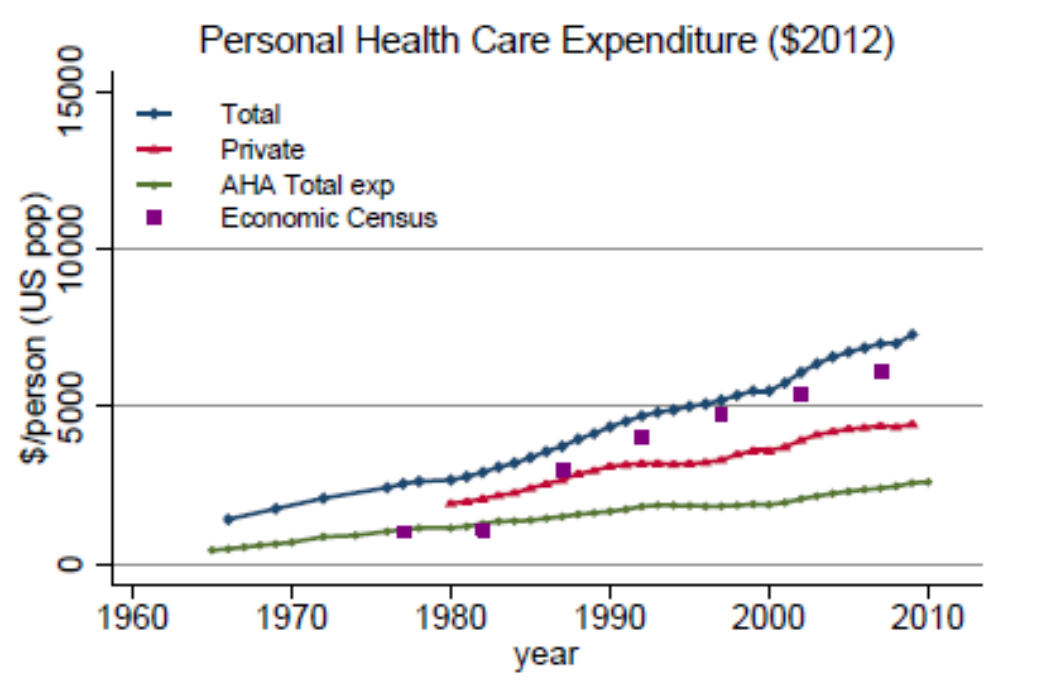


Table 1a. **Summary Statistics for Firms Subject to Federal Income Tax for the Stat**
1982—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms and comparability of 1977 and 1982 censuses, see appendix A]

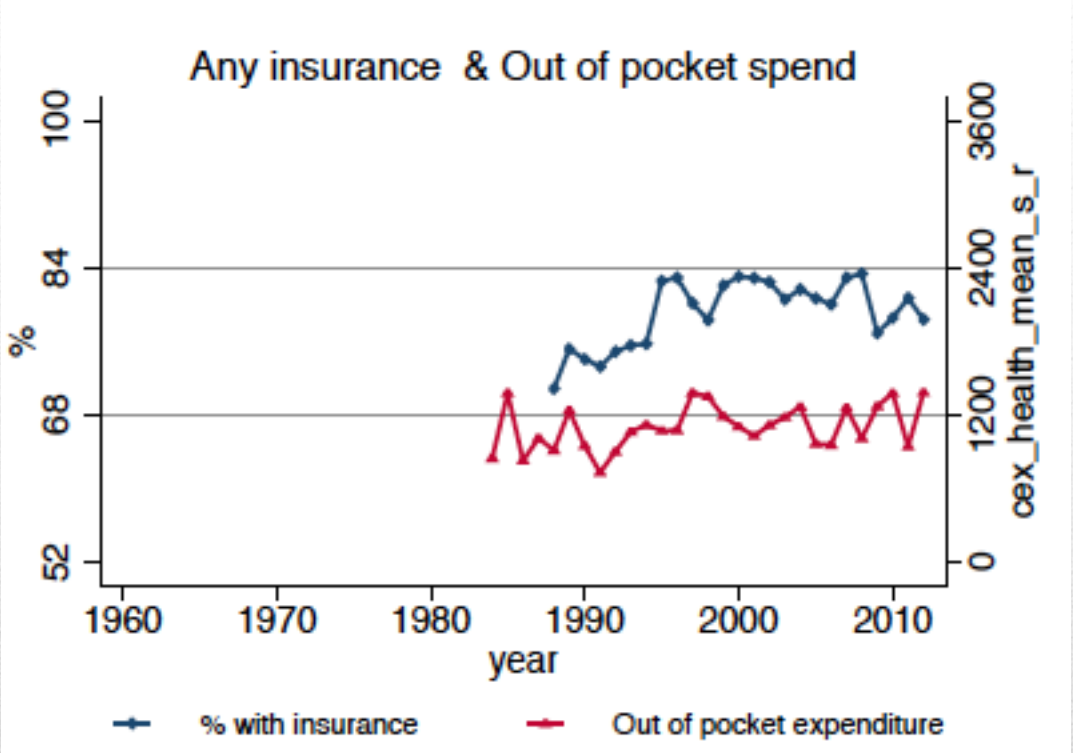
SIC code	Kind of business or operation	All establishments				Establishments with pa		
				Unincorporated businesses or operations				
		Number	Receipts ($1,000)	Individual proprietorships (number)	Partnerships (number)	Number	Receipts ($1,000)	Annual payroll ($1,000)
80, ex. 806	**Health services, except hospitals**	††	††	††	††	**5 341**	**1 505 608**	**689 001**
801	Offices of physicians	††	††	††	††	2 686	682 420	330 514
802	Offices of dentists	††	††	††	††	1 601	276 710	99 701
803	Offices of osteopathic physicians	††	††	††	††	6	1 636	822
8041	Offices of chiropractors	††	††	††	††	114	17 168	5 098
8042	Offices of optometrists	††	††	††	††	182	26 066	5 853
805	Nursing and personal care facilities	††	††	††	††	220	376 247	194 783
8051	Skilled nursing care facilities	**	**	**	**	169	339 680	177 336
8059	Nursing and personal care facilities, n.e.c.	**	**	**	**	51	36 567	17 447

- Coded similar numbers for each state and year

Example: 1982 CT Economic Census

Massive Data-Gathering Effort: Other Determinants of Health Spending

- Any insurance from CPS and new sources
- Goal: examine Medicaid net of crowd-out
- Private Insurance
- Private expenditure
- Out of pocket from CEX
- Hospital expenditure
- Hospital utilization from AHA
- Doctor visits from restricted use NHIS



Massive Data-Gathering Effort: Summary

- Longer data series
  - Can examine whether first expansions had a larger impact
    - Perhaps sicker people covered first (ex: child expansions came later)
  - Can explore variation in era of managed care (advantage over Medicare or Rand)
- More data series breakdowns by policy variation
  - Can examine heterogeneous treatment effects:
    - AFDC, AFDC-up, parents, pregnancy, children, childless adults
- New data series
  - Can better control for crowd-out through new private coverage series

Outline for Today

- Massive Data-Gathering Effort
- **Preliminary Results and Next Steps**

- Inception of Medicare (50%)
  - General equilibrium
  - Old, Sick population
  - Nothing like Medicare in place before inception
- Variation in Medicaid by State and Time
  - Between partial and general equilibrium
  - Sick population, not as old as Medicare
  - Medicare already existed
- Rand HIE (10%)
  - Partial equilibrium
  - Healthy population, not as old as Medicare
  - Medicare already existed

Expect results somewhere in the middle

Preliminary results in middle (20%)

- A one person increase in the number of people eligible for Medicaid increases real total health expenditure by $4,750 per year
- Medicaid eligibility explains 20% of the change in total health expenditure over the period 1965-2009

Total impacts	
Total Health Expenditure ($2012)	
Eligiblity	4750.124**
	'(2191.797)
Population	6217.852***
	'(1533.922)
R2	0.96
N	1932
Mean dep var	22,210,000,000
Instrument (elig share of pop)	sim1
Eligibility type	All
State fixed effects	x
Time fixed effects	x
Controls	pop
Calculation:	
x-mean (start year)	*0*
x-mean (endyear)	*1,851,931*
y-mean (start year)	*665,200,000*
y-mean (endyear)	*43,850,000,000*
% depvar change explained by medicaid change	**20.4%**

- A one person increase in the number of people eligible for Medicaid increases enrollment by 0.152 people
- Medicaid eligibility explains 23% of the change in Medicaid enrollment over the period 1965-2009

Mechanical Relationships	
Medicaid Enrollment (# of enrollees)	
Eligiblity	0.152**
	'(0.073)
Population	0.243***
	'(0.037)
R2	0.936
N	2103
Mean dep var	582,797
Instrument (share of pop)	sim1
Eligibility type	All
State fixed effects	x
Time fixed effects	x
Controls	pop
Calculation:	
x-mean (start year)	*0*
x-mean (endyear)	*1,851,931*
y-mean (start year)	*0*
y-mean (endyear)	*1,227,238*
% depvar change explained by medicaid change	**22.9%**

Medicaid takeup consistent with literature

Medicaid spending responds less than total spending

- A one person increase in the number of people eligible for Medicaid increases Medicaid expenditure by $1,724
- Medicaid eligibility explains 42% of the change in Medicaid expenditure over the period 1965-2009

Mechanical Relationships

Medicaid Expenditure ($2012)

Eligiblity	1724.877**
	'(767.918)
Population	299.633
	'(549.214)
R2	0.89
N	2,287
Mean dep var	2,806,000,000
Instrument (elig share of pop)	sim1
Eligibility type	All
State fixed effects	x
Time fixed effects	x
Controls	pop
Calculation:	
x-mean (start year)	*0*
x-mean (endyear)	*1,851,931*
y-mean (start year)	*0*
y-mean (endyear)	*7,536,000,000*
% depvar change explained by medicaid change	**42.4%**

Some evidence of spillovers to private expenditure

- A one person increase in the number of people eligible for Medicaid increases real private health expenditure by $1,633 per year
- Medicaid eligibility explains 15% of the change in real private health expenditure over the period 1980-2009

Spillovers	
Private Health Expenditure ($2012)	
Eligiblity	1633
	'(1023.176)
Population	4640.350***
	'(960.534)
R2	0.98
N	1,530
Mean dep var	17,250,000,000
Instrument (share of pop)	sim1
Eligibility type	All
State fixed effects	x
Time fixed effects	x
Controls	pop
Calculation:	
x-mean (start year)	*184,299*
x-mean (endyear)	*1,851,931*
y-mean (start year)	*8,533,000,000*
y-mean (endyear)	*26,710,000,000*
% depvar change explained by medicaid change	**15.0%**

Next steps

- More outcomes from NHIS
  - Insurance (all insurance, public/private)
  - Utilization (#primary care visits, hospital use)
- Heterogeneity by time period
- Heterogeneity by demographic groups
  - Race, Gender, Income