Family Spillovers of Long-term Care Insurance

Norma B. Coe (University of Washington, NBER)
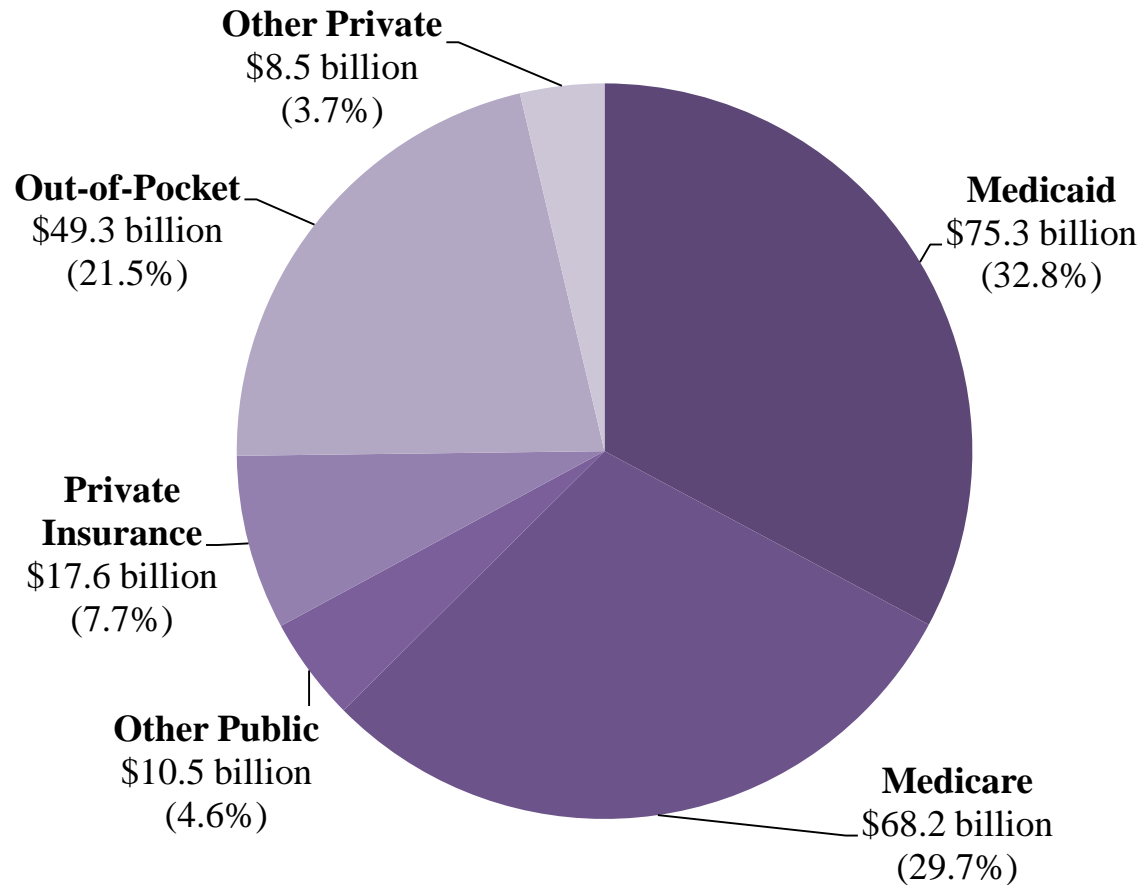
Gopi Shah Goda (Stanford)

Courtney Harold Van Houtven (Duke and VA)

LTC is one of the largest risks for the elderly

National Spending for Long-Term Care, by Payer (2012)

Other Private
$8.5 billion
(3.7%)

Out-of-Pocket
$49.3 billion
(21.5%)

Private Insurance
$17.6 billion
(7.7%)

Other Public
$10.5 billion
(4.6%)

Medicaid
$75.3 billion
(32.8%)

Medicare
$68.2 billion
(29.7%)

Total = $230 billion (~ 1.5 percent GDP)

US: Existing LTC Insurance

- Medicare coverage is incomplete

- Medicaid coverage only for poor – coverage of last resort

- ACA's attempt to address the problem -- CLASS Act – repealed

- Now even more policy attempts to spur the private insurance market
  - Currently covers about 13-15% of 65+

LTC sources in home

- 87% of community-residing elderly needing assistance receiver care exclusively from informal sources
  - 66% of most disabled receive informal care only
- Insufficient future supply?
  - Smaller families
  - Geographic dispersion
  - Dual working families
  - Increased divorce
  - Delays in fertility

Why is LTCI demand so low?

Empirical work has focused on:

- Expense
- Non-group market (transactions cost, competition)
- Limited consumer rationality
- Misconceptions about the extent of public health insurance coverage for long-term care
- Availability of imperfect but cheaper substitutes (Medicaid, children)
- Fraud and abuse

Theory has focused on:

- Asymmetric information/intra-family moral hazard

This paper:

Estimate the causal impact of LTCI on:

(1) Intra-family moral hazard.

- Expectations about future family-provided informal care

- Actual use of family-provided informal care

(2) Spillovers to adult children

- Work

- Living arrangements

- Financial ties

Conceptual model

IFMH

- Demand for LTCI low because parents prefer IC from kids (Pauly, 1990).

- Buying insurance changes makes formal care relatively cheaper compared to IC, so demand remains low

- LTCI reduces expectations for IC.
  - Reduced actual demand or shorter duration
    - Predicts positive labor force response
    - Reduces co-residence or having to live close by

Empirical challenge:
separate selection from IFMH

- People who buy LTCI are different than those who do not (Finkelstein and McGarry, 2006), possibly in unobservable ways

  – Higher likelihood of using LTC in future (adverse selection) or more risk averse

- Solution: Instrumental Variables

  – State-level favorable tax treatment of LTCI policies have been shown to causally influence LTC holding (Goda, 2011).

Variation in state tax policy for LTCI

- Date of adoption
  - 3 states in 1996
  - 24 states plus DC by 2010
- Generosity of tax break
  - 16 states allow deductions of their premium
  - 9 offered credits for a certain percentage
  - Average value was 4.6% of premiums but varied from 0%-20%
- Goda, 2011 found average state tax subsidy → 28% increase in LTCI coverage rates

Empirical Strategy

- First stage:

$$LTCI_{ist} = \Phi(\beta_0 + \beta_1 Z_{st} + \beta_2 X_{it} + S_s + \lambda_t + u_{ist})$$

- Second stage:

$$Y_{ist} = \Phi(\alpha_0 + \alpha_1 LTCI_{ist} + \alpha_2 \hat{u}_{ist} + \alpha_3 X_{it} + s_s + \lambda_t + \varepsilon_{ist})$$

Estimation

1. 2nd stage outcomes are binary; most are low probability events

    – Probit instead of linear probability models

2. First stage outcome is binary

    – 2SRI (Terza, Basu, and Rathouz, 2008)

    ➔ recycled predictions + bootstrapped standard errors to estimate the marginal effect

Outcomes – Y's

(1) Intra-family Moral Hazard

- Expectations about IC
  - "Suppose in the future, you needed help with basic personal care activities like eating or dressing. Do you have relatives or friends [besides your spouse] who would be willing and able to help you over a long period of time?"

- Receipt of informal care
  - Several questions
    - Respondent gets help with IADLs/ADLs from an unpaid family member or friend and which ones
    - t+1, t+2, t+3 waves out to allow time for disability to accrue

Outcomes – Y's

(3) Family spillovers

- Co-residence
  - Any child lives with a parent

- Proximity
  - At least one child lives within 10 miles of parent

- Work
  - At least one child works full-time; part-time

- Transfers
  - At least one child gave transfer to respondent

Data

- Health and Retirement Study: 1996-2010
  - \+ State identifiers
  - \+ State tax incentives
- Nationally representative of near elderly, elderly
  - LTCI "Not including government programs, do you now have any long term care insurance which specifically covers nursing home care for a year or more or any part of personal or medical care in your home?"
- Sample: report filing taxes, median income or above

First Stage: LTCI

LTCI	(1)
Current Subsidy	0.039***
LTCI mean	0.158
F-statistic	14.2
Adj R^2	0.058
Clusters	51
Obs	46,564

Results: (1) Expectations of Informal Care

Table 3: 2SRI Estimates of Effects of LTCI on Expectations

	(1) Inf Care	(2) Inf Care-Kid	(3) Inf Care-Relative	(4) Inf Care-Other
Marginal Effect	-0.202**	-0.083	-0.157***	-0.032
Bootstrap S.E.	(0.096)	(0.098)	(0.041)	(0.043)
p-value	0.042	0.403	0.000	0.462
Mean of DV	0.603	0.432	0.165	0.119
FS Marginal Effect	0.039	0.039	0.039	0.039
FS F-Statistic	13.688	14.204	14.173	13.974
Pseudo R^2	.0629	.106	.0911	.0464
Clusters	48	49	47	48
Observations	46,612	46,625	46,589	46,601

Results: (2) Actual Informal Care

Table 5: 2SRI Estimates of Effects of LTCI on Informal Care Utilization

	T − t+1 Informal Helper	T − t+2 Informal Helper	T − t+3 Informal Helper
Marginal Effect	-0.089 **	-0.062	-0.066
Bootstrap S.E.	(0.035)	(0.050)	(0.068)
p-value	0.015	0.222	0.336
Mean of DV	0.091	0.131	0.156
FS Marginal Effect	0.039	0.039	0.038
FS F-Statistic	13.681	10.674	8.69100000000001
Pseudo R^2	.272	.258	.233
Clusters	46	48	48
Observations	46,592	38,254	30,024

Results: (3) family behavior

Table 6: 2SRI Estimates of Effects of LTCI on Children Behavior

	(1) Child Co-Res	(2) Child 10 mi.	(3) Child FT	(4) Child PT	(5) R Helps Child	(6) Child Helps R
Marginal Effect	-0.244 ***	0.129	0.068 **	-0.158 **	-0.300 ***	0.000
Bootstrap S.E.	(0.042)	(0.125)	(0.031)	(0.078)	(0.093)	(0.030)
p-value	0.000	0.306	0.031	0.049	0.002	0.991
Mean of DV	0.245	0.521	0.920	0.243	0.570	0.031
FS Marginal Effect	0.040	0.040	0.040	0.040	0.041	0.041
FS F-Statistic	11.877	11.712	11.884	12.298	12.679	12.367
Pseudo R^2	.116	.0741	.19	.038	.0998	.094
Clusters	48	47	44	48	49	42
Observations	43,101	43,113	42,363	42,429	43,055	42,567

Table B-3: 2SRI Estimates of Effects of LTCI on Children Behavior (Sons)

	(1) Son Co-Res	(2) Son 10 mi.	(3) Son FT	(4) Son PT
Marginal Effect	-0.171 ***	0.041	0.105 ***	-0.120 ***
Bootstrap S.E.	(0.048)	(0.143)	(0.031)	(0.041)
p-value	0.001	0.776	0.002	0.005
Mean of DV	0.181	0.371	0.884	0.096
FS Marginal Effect	0.047	0.046	0.049	0.049
FS F-Statistic	17.471	16.482	19.633	19.616
Pseudo R^2	.113	.0428	.0921	.0504
Clusters	46	46	44	47
Observations	36,522	35,894	33,757	33,785

Limitations

- Generalizability
  - Median income / tax filers

- Identification
  - Focuses on individuals induced to hold LTCI due to slight reduction in price through tax code.
  - Are they different from other people policy makers want to target to buy LTCI using other tools?

Conclusions

- We estimated the causal effects of LTCI on informal care using best national source of data available.

- First to test for IFMH while addressing endogeneity.

- Evidence of intra-family moral hazard (Pauly, 1990)
  - LTCI lowers expectations for informal care from extended family
  - LTCI reduces informal care actually received

Conclusions

- LTCI changes family behavior consistent with children having a smaller role in caring for parents now and in the future.
    - Less co-residence
    - Higher labor force attachment
- Focusing only on informal care misses the full effect of LTCI on the family
    - Spillovers can occur before disability onset/ with our without disability onset
- Potentially important economic gains of LTCI to children to account for in policy calculations.