Expanding Health Insurance for the Elderly in the Philippines

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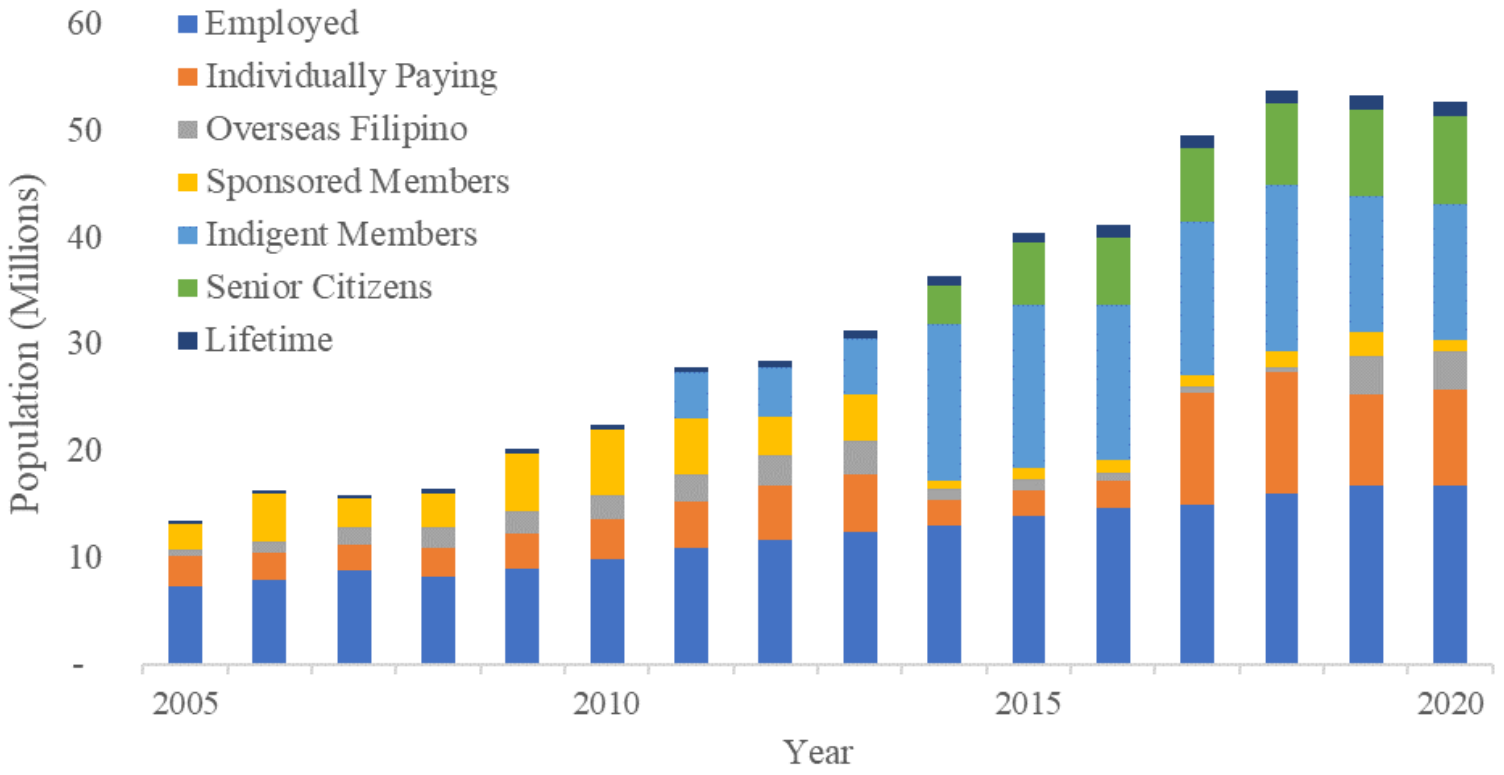
Philippine Institute for Development Studies

Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

PhilHealth membership



Expansion in primary membership -- largely by indirect members (sponsored, indigents, senior citizens) post-2012 Sin Tax Law

“These [PhilHealth] services and packages shall be reviewed annually to determine their financial sustainability and relevance to health innovations, with the end in view of quality assurance, increased benefits and **reduced out-of-pocket expenditure**.”

Section 10, RA7875, as amended by RA10606

Impact on Poor Children

4Ps with automatic PhilHealth coverage “induced greater hospital visits for both preventive and curative care, and lower out-of-pocket health expenditures among children.”

Abrigo and Paqueo (2019)

Senior Citizens Act

- 1992: RA 7432 (Senior Citizens Act) provided for free medical and dental services in government establishments subject to DOH, GSIS and SSS guidelines
- 2010: RA 9994 (Expanded Senior Citizens Act of 2010) granted additional benefits to SC, including Mandatory PhilHealth Coverage to **all *indigent* senior citizens** funded by LGUs
- 2014: RA 10645 amends RA 9994 by covering **all senior citizens** with those not previously covered to be funded by the 2012 Sin Tax Law

Who are the elderly?

	With elderly member	Without elderly member
Share of households (%)	34.8	65.2
Poverty incidence (% of households)	14.0	21.1
Per capita income (PhP thousands)	77.2	62.5
Wages	26.0	31.2
Entrepreneurial income	14.1	13.3
Asset income	1.3	0.6
Transfers	14.1	9.3
Others	21.6	8.2
Per capita expenditure (PhP thousands)	60.2	51.0
Health	3.8	1.4
Education	1.4	2.0
Expenditures other than education and health	55.1	47.5
Food	22.2	21.3
Housing	9.7	6.4
Recreation	0.5	0.4
Special family occassions	1.7	1.2
Others	21.0	18.2

On average…

- ✓Less likely from poor household
- ✓With higher income and expenditure per capita

Why? Survived into old-age

- ✓Better endowed when younger
- ✓Able to accumulate wealth

…But not all elderly are alike

- ○Greater inequality among older than younger population (Estudillo, 1997)

Research Questions

1. How did Expanded Senior Citizens' Act (ESCA) affect insurance coverage for elderly Filipinos?
2. Who was impacted by the expansion?
3. How did insurance coverage affect medical expenditures and utilization?

Key Takeaways

- ESCA increased social health insurance coverage by 10-20 percentage points
- Compliers tend to be middle class, female, and -- in some dimensions – high utilizers (suggesting adverse selection)
- Contrary to expectations, out-of-pocket medical expenditures increase by over 100% driven by non-covered expenditure categories (e.g. outpatient services and medicines)
- Evidence is consistent with outward shift in medical care demand
  - Intensive (rather than extensive) margin effects
  - Increase in chronic disease diagnoses
  - Consistent with studies elsewhere, e.g. Bernal, et al. (2017), Wagstaff and Lindelow (2008)

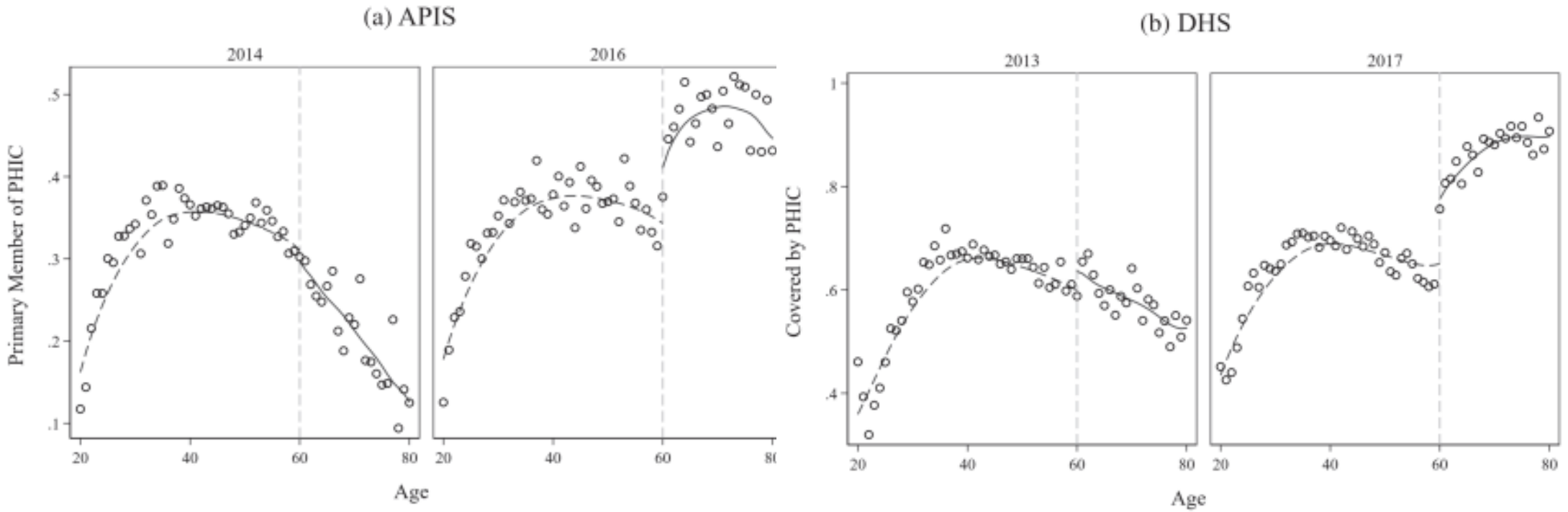
Estimation

- Expanded Senior Citizens' Act as natural experiment to study impact of health insurance coverage among elderly
  - Employ difference-in-differences that exploits ESCA introduction and discontinuity in age eligibility for expanded benefits for senior citizens
  - Exploit ESCA to characterize compliers following Kowalski (2019)
  - Use ESCA eligibility as instrumental variable for insurance coverage
- Technical details available in published report

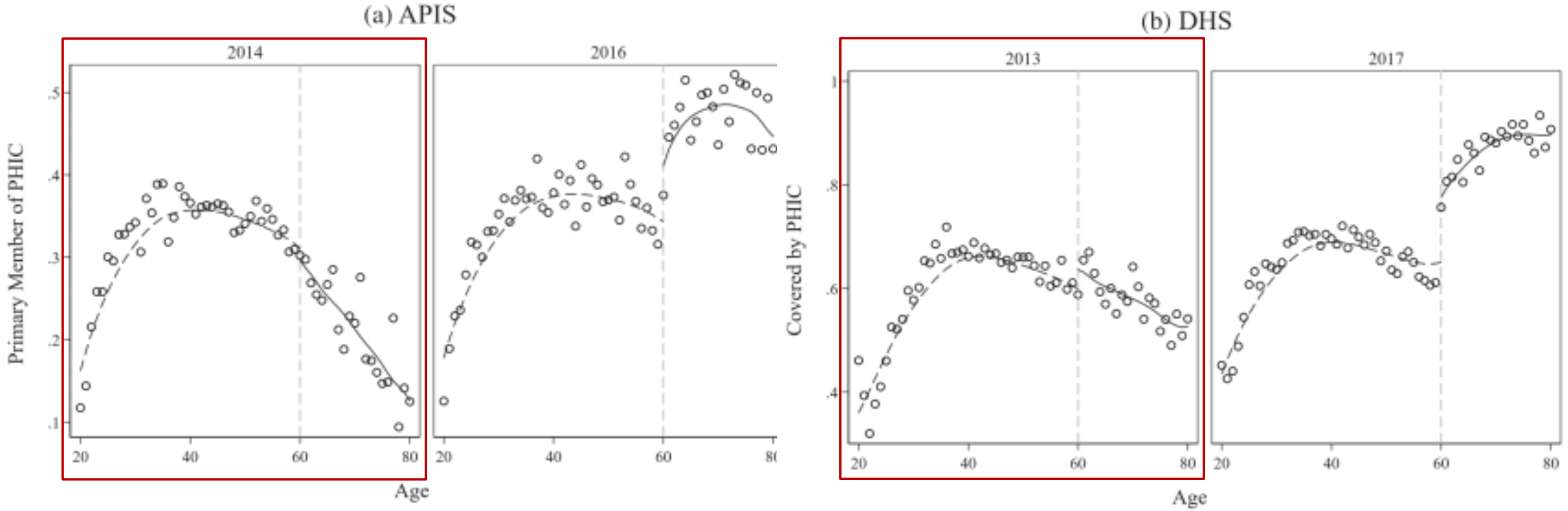
Data

- Representative sample surveys from pre- and post-ESCA legislation
- Annual Poverty Indicators Survey 2014 and 2016
  - Nationally representative survey that aims to captures socioeconomic profile
  - Questions on (1) household expenditures, including out-of-pocket medical expenditures; (2) PhilHealth membership, but primary members only; (3) earnings, education, demographic, etc. information
- National Demographic and Health Survey 2013 and 2017
  - Nationally representative survey of women of reproductive age, but with information available for other household members
  - Questions on (1) PhilHealth coverage, including primary members and dependents, as well as other insurance coverage; (2) health care utilization, (3) acute and chronic health conditions; (4) wealth index, education, demographic, etc. information

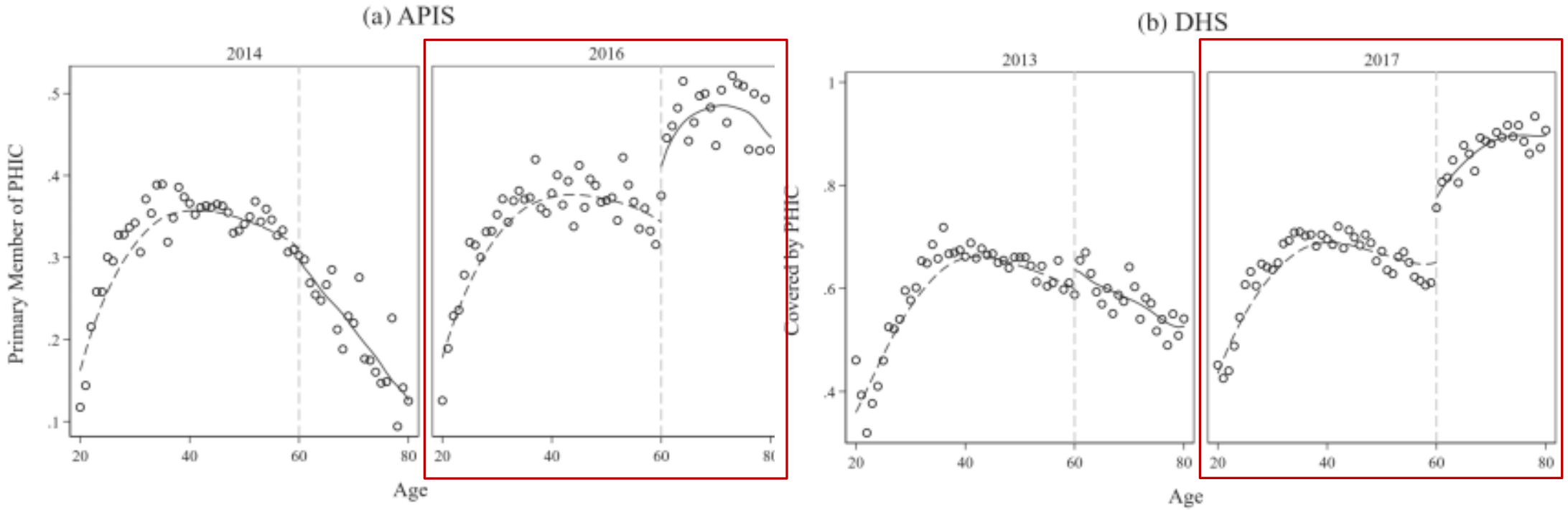
How did Expanded Senior Citizens' Act (ESCA) affect insurance coverage for elderly Filipinos?


(a) APIS
2014
2016
Primary Member of PHIC
.1
.2
.3
.4
.5
20
40
60
80
Age
(b) DHS
2013
2017
Covered by PHIC
.4
.6
.8
1
20
40
60
80
Age

No discernable difference in insurance coverage at senior citizens age cut-off prior to ESCA legislation



ESCA increased insurance coverage among elderly by 10 to 20 percentage points at age eligibility cut-off

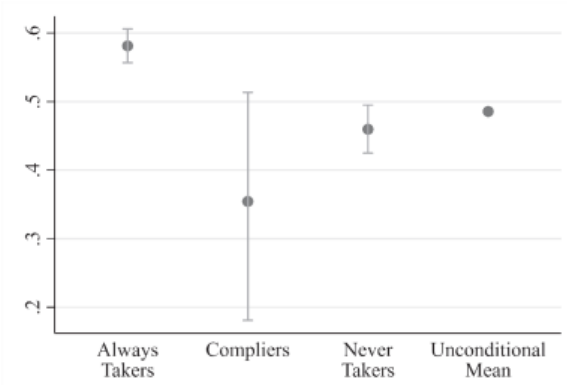


Who was impacted by the expansion?

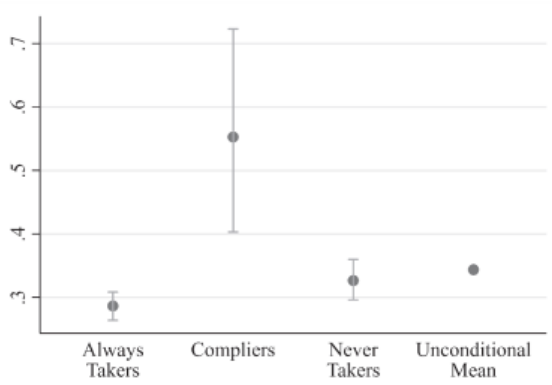
Complier Analysis

- Important question to answer since impact estimates (next question) are for elderly population who are induced into having insurance coverage because of ESCA, a.k.a. compliers
- Compliers cannot be identified directly, but their average characteristics can be identified – important to know from policy perspective
- Idea: Natural experiment like ESCA with pre- and post-implementation periods can be used to identify average characteristics of (1) always takers, (2) always takers + untreated compliers, (3) treated compliers + never takers, and (4) never takers – that allows us to back up the average characteristics of compliers
- Technical details available in published report

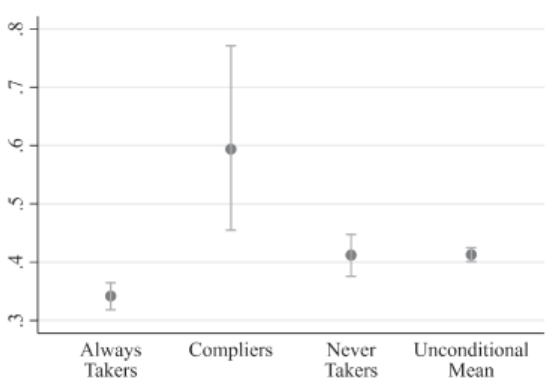
(a) Male (APIS)



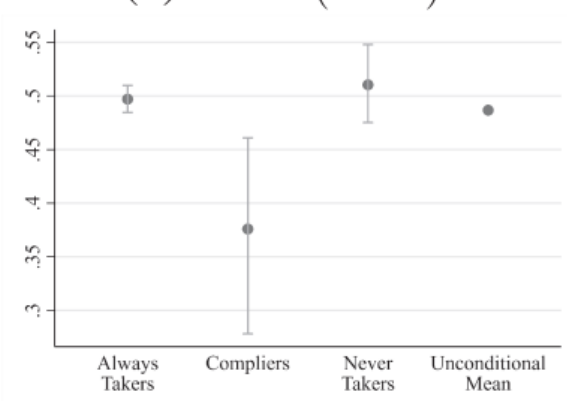
(b) Middle Education (APIS)



(c) Middle SES (APIS)



(d) Male (DHS)



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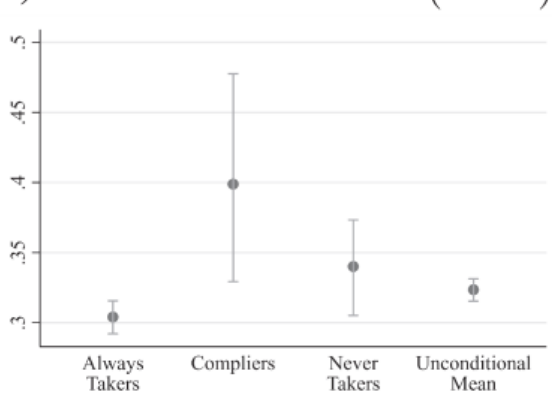

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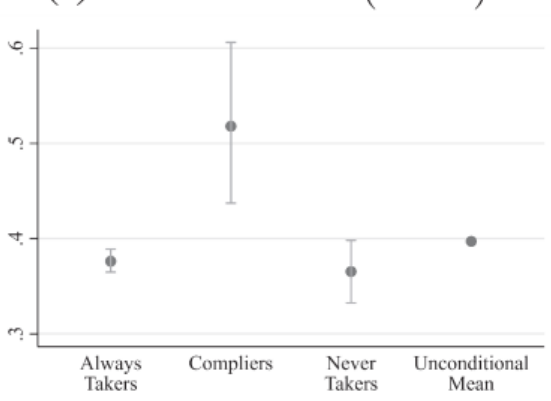
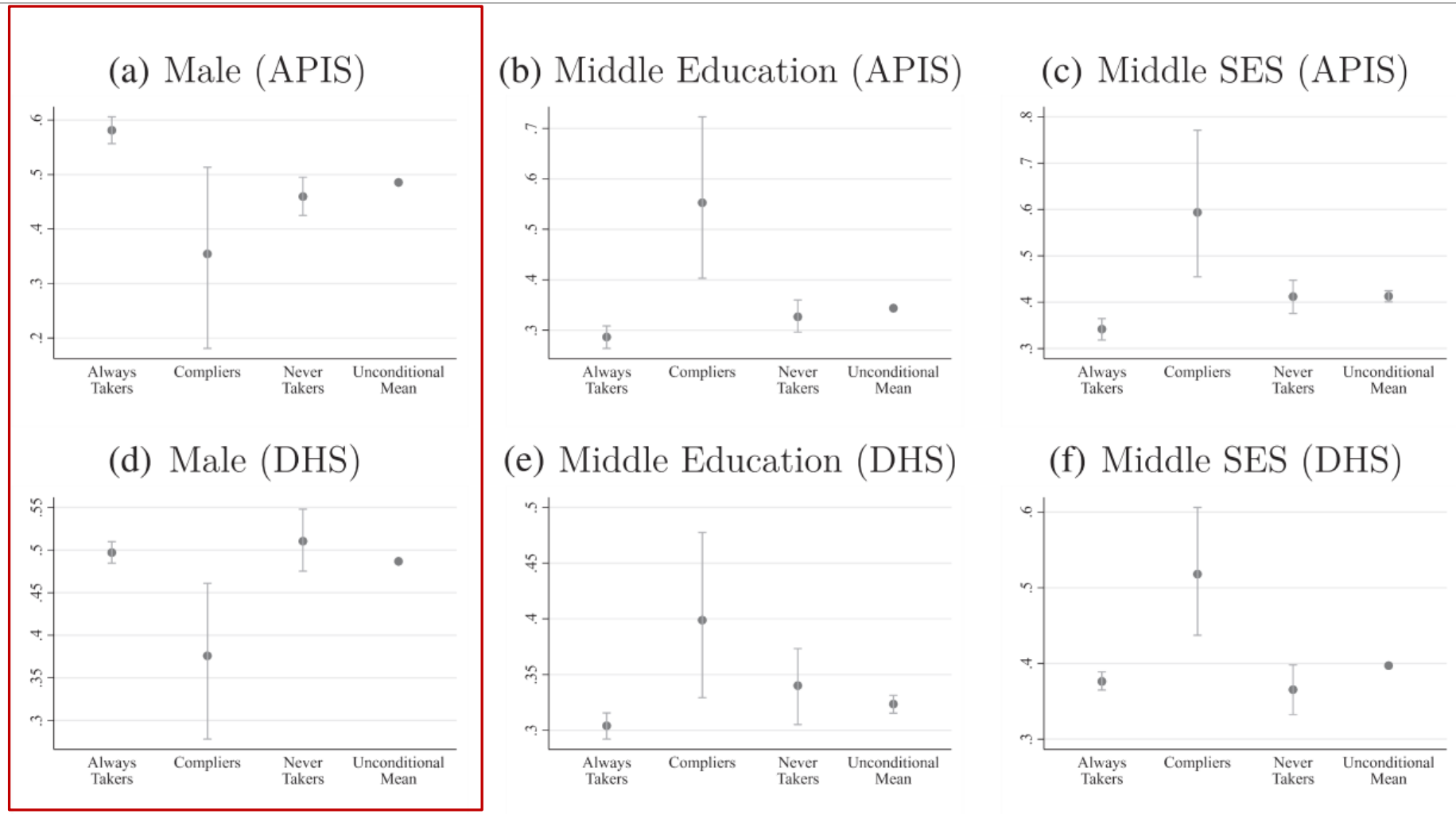
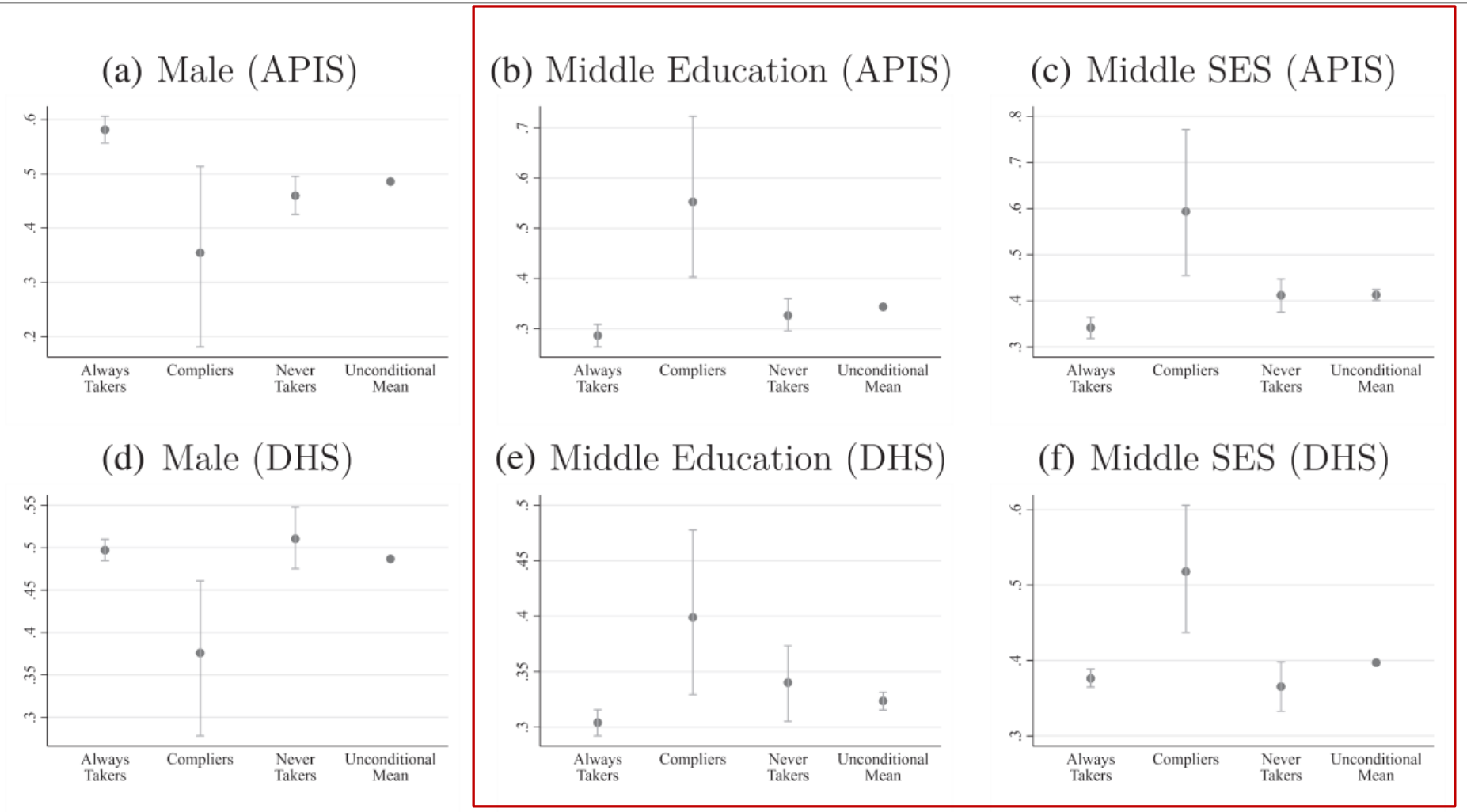


Less likely male; more likely female



More likely middle class by education or income/wealth



Compliers

- More likely female
  - Males are more likely continuously employed during prime age and therefore covered through PhilHealth's Lifetime Membership program
  - Female labor force participation at around 50% compared with 70+% for males
  - Female exit from labor force timed with childbearing (e.g. Albert et al., 2020)
  - Females may be covered as dependents pre-ESCA but are not automatic and are slightly less generous with additional dependents
- More likely middle class
  - Poor are automatically covered through 4Ps under PhilHealth's Sponsored Programs
  - Rich are more likely covered through direct contribution – and eventually graduate to lifetime member upon retirement

Testing for selection

- Complier analysis may be used to test for selection into program: Are those who are more likely to use insurance more likely to obtain insurance coverage?

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	Log Health Expenditures (APIS)	Hospital Stay Last Year (DHS)	Health Visit Last Month (DHS)
Always-Takers	0.277*	0.064***	0.038***
	(0.151)	(0.009)	(0.014)
Always-Takers & Treated Compliers	0.518***	0.065***	0.044***
	(0.140)	(0.007)	(0.011)
Never-Takers & Untreated Compliers	-0.109	0.026***	0.007
	(0.141)	(0.009)	(0.015)
Polynomial Order	1	2	2
Mean of Dep. Var.	4.990	0.0597	0.108
N	6707	13650	13650

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This group will always have insurance even without ESCA.

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This group has insurance coverage. Increase may be due to combined effect of insurance coverage and adverse selection

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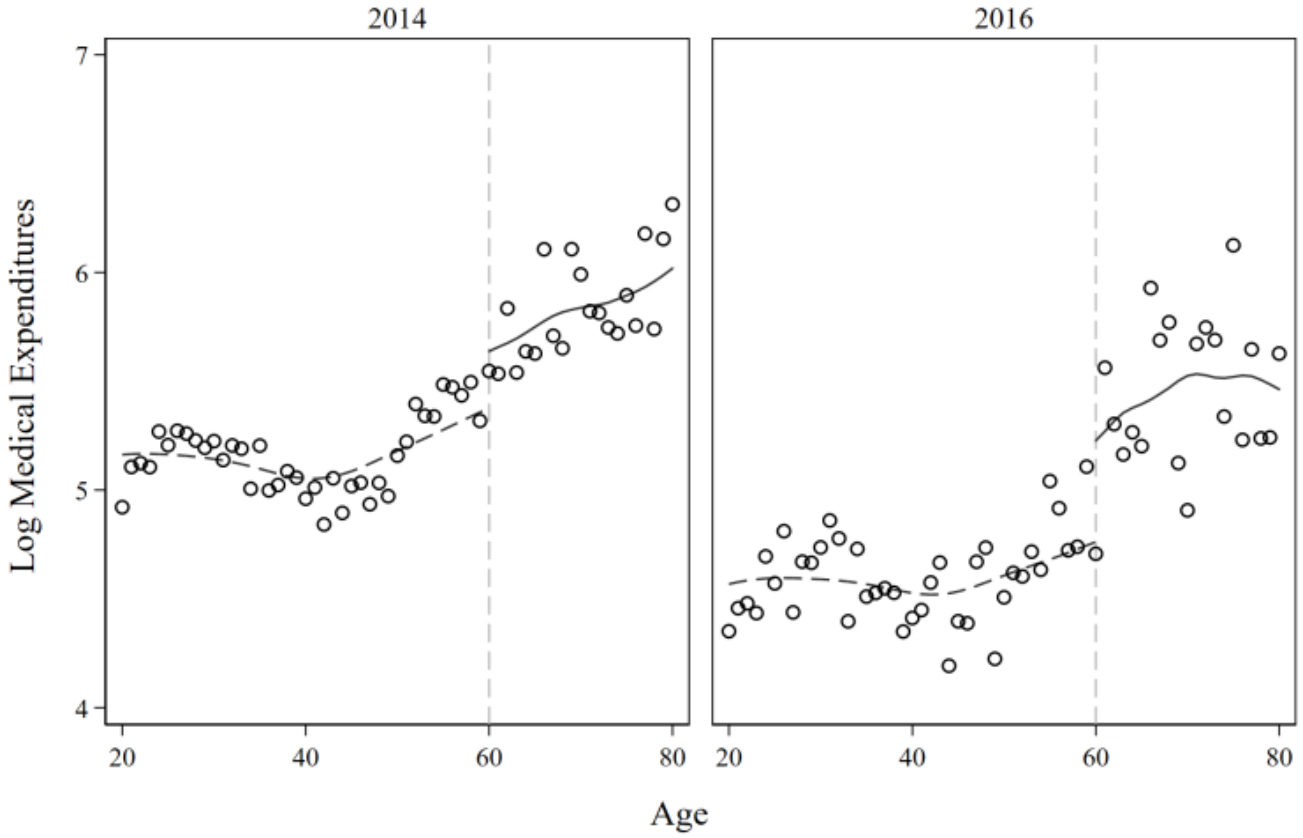
This group has no insurance coverage. Increase in hospital stay propensity may be indication of adverse selection into insurance coverage.

How did insurance coverage affect medical expenditures and utilization?

IV Regression: Idea



Use ESCA eligibility as instrument for PhilHealth coverage to estimate impact on health care expenditures and utilization

Estimates are for compliers

OOP expense

PhilHealth coverage increased out-of-pocket health expenditures among elderly compliers due to increased expenditures for outpatient care and medical products that are not normally covered by PhilHealth

	Log Health Expenditures		Health Expenditure Share		Log Outpatient Expenditures		Log Inpatient Expenditures		Log Medical Product Exp.	
Bandwidth	5	10	5	10	5	10	5	10	5	10
Enrolled in PHIC	1.250*	1.373***	0.013	0.037*	1.751**	1.541***	-0.523	0.105	1.534**	1.822***
	(0.712)	(0.492)	(0.026)	(0.019)	(0.716)	(0.494)	(0.677)	(0.472)	(0.712)	(0.495)
Weak identification F	43.320	100.382	43.320	100.382	43.320	100.382	43.320	100.382	43.320	100.382
Underidentification F	42.872	98.983	42.872	98.983	42.872	98.983	42.872	98.983	42.872	98.983
Polynomial Order	1	2	1	2	1	2	1	2	1	2
Mean of Dep. Var.	5.22	5.17	0.038	0.038	1.23	1.25	0.62	0.62	3.77	3.69
N	6707	13116	6707	13116	6707	13116	6707	13116	6707	13116

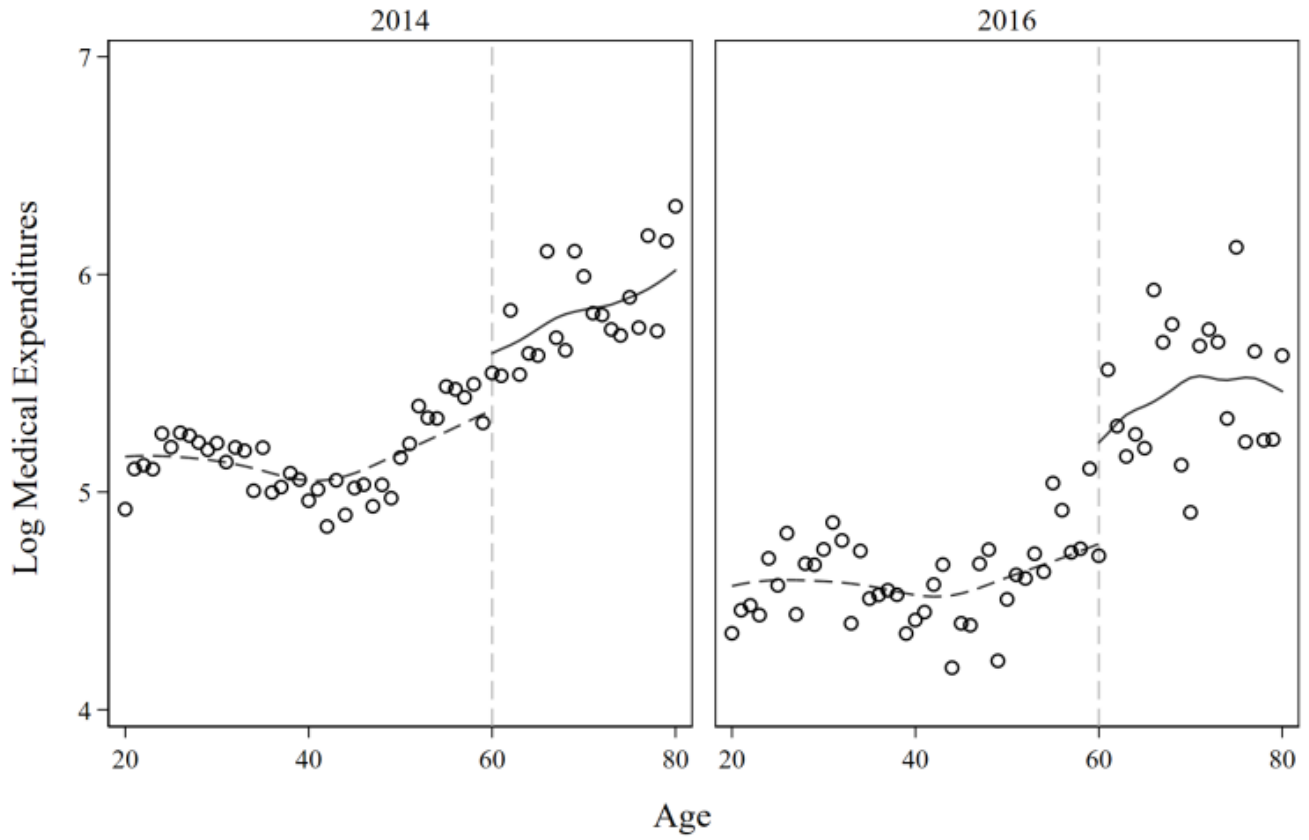
Health care utilization

Some evidence of increased health care utilization, particularly for hospitalization – impact of about +20% points relative to average 7% pre-ESCA

	Hospital Stay Last Year		Health Visit Last Month		Hospital Stay Last Month		
Bandwidth	5	10	5	10	5	10	15
Enrolled in PHIC	0.006	0.004	0.051	0.016	0.244	0.196	0.241*
	(0.060)	(0.034)	(0.079)	(0.046)	(0.348)	(0.167)	(0.134)
Weak identification F	66.615	190.617	66.615	190.617	4.569	20.410	32.715
Underidentification F	65.926	186.954	65.926	186.954	4.573	20.250	32.298
Polynomial Order	2	3	2	3	2	3	3
Mean of Dep. Var.	0.060	0.056	0.11	0.10	0.13	0.14	0.14
N	13650	27356	13650	27356	1469	2827	4081

Increased OOP expenditures due to PhilHealth coverage is unexpected and may be disconcerting

Why? Some mechanisms (1)



- Those close to but below age 60 are delaying health care for eventual free PhilHealth coverage in ESCA
- Not consistent with data:
  - Lower health expenditures across all age groups in 2016 relative to 2014
  - Those in late 50s may have higher incentive to wait, but drop in expenditure is higher among those in early 50s

Why? Some mechanisms (2)

- Increased utilization leads to greater point-of-care enrollment in PhilHealth
- Also unlikely
  - Point-of-care enrollment remains as a small program of PhilHealth
  - Even with unlikely chance that all POC enrollees are senior citizens, these constitute only about one percent of all senior citizens covered by PhilHealth
  - Senior citizens are more likely to enroll when they get their SC card

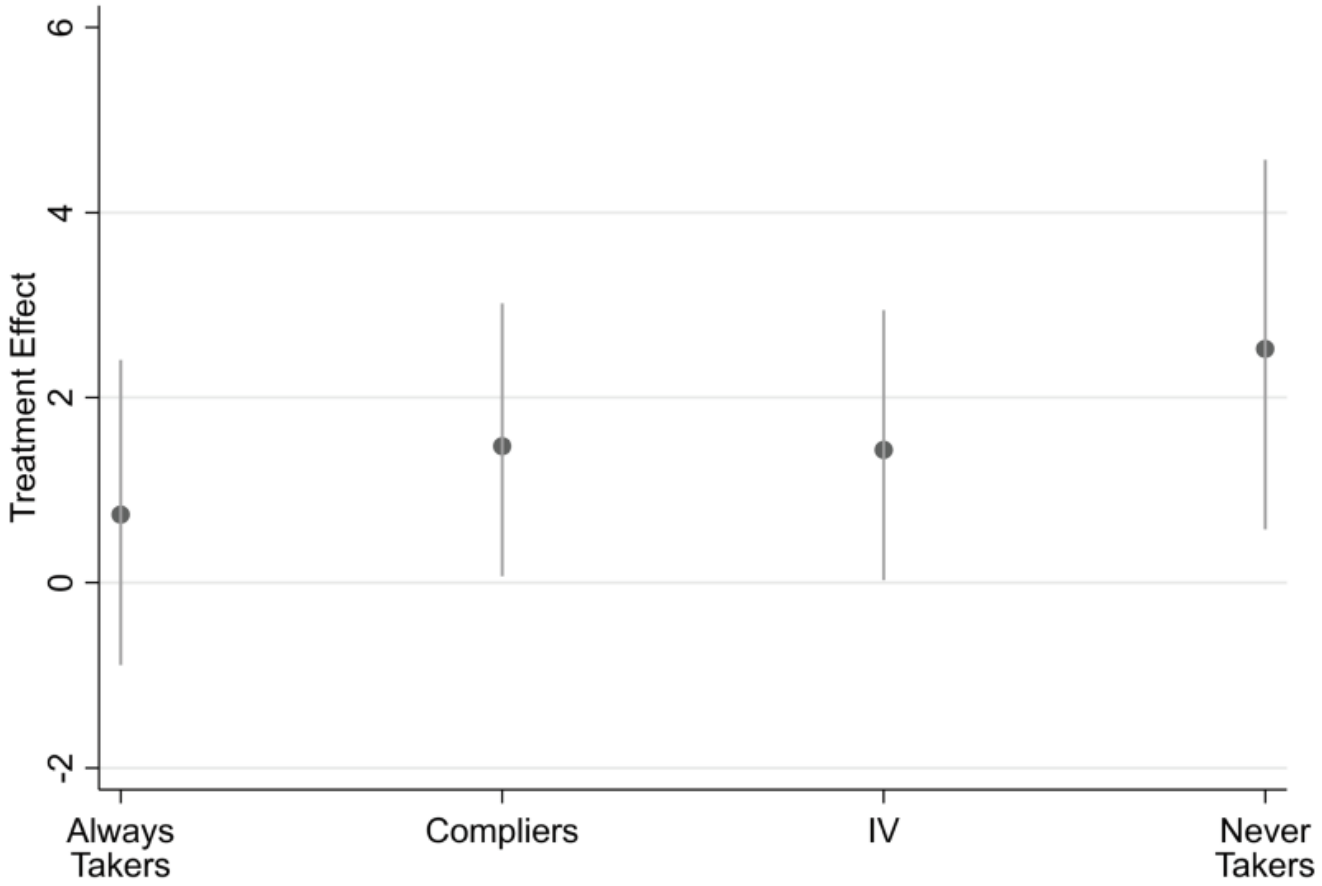
Why? Some mechanisms (3)

- Increased diagnoses of chronic conditions
  - Chronic disease diagnoses is low due to severe underdiagnoses
  - Example: Hypertension -- 5% diagnosed in DHS but 35-40% prevalence
  - May be as a result of increased contact with health care system; Increased diagnoses may also increase OOP through complementarities with outpatient care or with medicines that largely not covered by PhilHealth

	Chronic Condition		Acute Condition		Hypertension		Diabetes		Cancer	
Age 60 and Older	-0.015	0.015*	-0.000	0.012	-0.012	0.013**	-0.003	0.000	0.000	0.001
	(0.012)	(0.009)	(0.014)	(0.010)	(0.010)	(0.007)	(0.006)	(0.004)	(0.002)	(0.001)
Year	2013	2017	2013	2017	2013	2017	2013	2017	2013	2017
Mean of Dep. Var.	0.074	0.067	0.13	0.10	0.054	0.050	0.019	0.015	0.0017	0.0017
N	9410	17946	9410	17946	9410	17946	9410	17946	9410	17946

What about impact to always takers and never takers?

Total OOP Expenditures (log)



Used marginal treatment effect method by Birch et al. (2017) building on Heckman and Vitlacyl (2007) to estimate impact on always takers and never takers

Joint test cannot reject no treatment heterogeneity hypothesis – although point estimates suggest higher treatment effect for never takers and small for always takers

Key Takeaways

- ESCA increased social health insurance coverage by 10-20 percentage points
- Compliers tend to be middle class, female, and -- in some dimensions – high utilizers (suggesting adverse selection)
- Contrary to expectations, out-of-pocket medical expenditures increase by over 100% driven by non-covered expenditure categories (e.g. outpatient services and medicines)
- Evidence is consistent with outward shift in medical care demand
  - Intensive (rather than extensive) margin effects
  - Increase in chronic disease diagnoses
  - Consistent with studies elsewhere, e.g. Bernal, et al. (2017), Wagstaff and Lindelow (2008)

Implications for Policy

- Increase in insurance coverage can lead to increase OOP expenditures that may be contrary to policy intentions
- Not necessarily counterproductive since this may be the result of increased contact with health system leading to better diagnoses – which may be overall welfare improving – or with complementarities with non-covered services – which suggests that elderly are willing to pay it for themselves
- Important to ensure that increased expenditures reflect use of necessary care, and that health care providers are not charging higher prices to insured patients – or that they are not passing the cost to other patient groups