

# Impact of a pilot CBHI on health care utilization and OOP health expenditure in Ethiopia

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## Background

- Ethiopia is amongst the least developed countries in the world and it has low access to care and poor health status compared to other LMICs
- UNDP ranks Ethiopia 173<sup>th</sup> on the Human Development Index among 186 countries in 2012
- Outpatient care utilization per capita per year increased only slightly from 0.27 in 2000 to 0.3 in 2011
- The observed poor health status and low utilization of modern healthcare services are caused by both supply side and demand side constraints.
- For many years, the government has been focusing on supply side constraints—expanding health facilities and health workers.
- In order to deal with demand side constraints, the government launched pilot community based health insurance scheme (CBHI) in 2011
- This study examines the impact of the scheme on utilization and health spending

## What do we know about impact of CBHI?

- We conducted systematic assessment of CBHI studies in LMICs based on 36 papers (24 published and 12 unpublished)
- There is strong evidence for social exclusion (9 out of 14 studies) and adverse selection behavior (6 out of 7 studies) in CBHI uptake.
- The schemes are generally effective in creating access to care but more so with outpatient care (85.7 percent) than inpatient care (58.3 percent).
- They reduce catastrophic health expenditure (83.3 percent) but less evidence to protect members from OOP health spending (55.6 percent)

### Empirical concerns:

- most studies use cross- section data and do not account for self-selection
- often do not control for geographical access to health facilities and quality of care

## Basic design feature of Ethiopian pilot CBHI scheme

- The benefit package includes both outpatient and inpatient cares
- Members first need to visit health centers and then could be referred to hospitals
- No co-payment but if members prefer to go directly to public hospitals, they need to cover 50 of the service charge
- Membership is allowed only at households level

### Membership contribution and interval of payment across the regions

Region	Unit of contribution	Premium level pre month		Interval of contribution payment
		Core households members*	Per extended family member	
Tigray	household	11.00 ETB	2.50 ETB	Yearly
Amhara	Individual	3.00 ETB	3.00ETB	Twice a year
Oromiya	household	15.00 ETB	3.00ETB	Yearly (Gimbichu), flexible that is either twice a year or yearly (Kuyu, Deder, and L. Kossa)
SNNPR	household	10.50 ETB	2.10ETB	Quarterly (Yirgalem and D. Woyde) and three times a year (Damboya)

## Data and method

### Data

- 1) Panel household survey conducted in 2011 & 2012.
  - a baseline survey (N=1632 hhds) from 12 CBHI districts and 4 control districts
  - follow up survey (N=1599)
- 2) Health facility survey collected in 2011
- 3) Qualitative information obtained from key informants and through focus group discussions in 2012

### Method

We used alternative models:

- DID estimates
- Fixed effects using balanced panel regression
- Fixed effects on a sample of treated and matched controls

**Table 3.2**

**CBHI impact on probability of outpatient care utilization**

Outcome variable	DID	Fixed effects	Fixed effects after matching <sup>a</sup>
Outpatient care use from modern providers (2 months)	0.0668*	0.0787**	0.0657*
	(0.0371)	(0.0366)	(0.0372)
Outpatient care use from public providers (2 months)	0.0713**	0.0740**	0.0636*
	(0.0346)	(0.0347)	(0.0356)
Outpatient care use from private providers (2 months)	0.0182	0.0299	0.0165
	(0.0242)	(0.0266)	(0.0269)

**Table 3.3**  
**CBHI impact on the source of care**

Outcome variable	DID	Fixed effects	Fixed effects after matching <sup>a</sup>
Outpatient care use from health post (2 months)	0.0108 (0.0114)	0.0149 (0.0128)	0.00920 (0.0124)
Outpatient care use from health center (2 months)	0.0980*** (0.0313)	0.0921*** (0.0315)	0.0901*** (0.0326)
Outpatient care use from public hospital (2 months)	-0.0316** (0.0152)	-0.0291* (0.0164)	-0.0277* (0.0167)

**Table 3.4**

**CBHI impact on intensity of outpatient care utilization**

Outcome variable	DID	Fixed effects	Fixed effects after matching <sup>a</sup>
No of outpatient visits per hh member to modern facility (2 months)	0.0824**	0.0824**	0.0824**
	(0.0327)	(0.0327)	(0.0327)
No of outpatient visits per hh member to public facility (2 months)	0.0654**	0.0654**	0.0654**
	(0.0277)	(0.0277)	(0.0277)
No of outpatient visits per hh member to private facility (2 months)	0.0180	0.0180	0.0180
	(0.0179)	(0.0179)	(0.0179)

**Table 5.2**  
**CBHI impact on health care spending**

Outcome variable	DID	Fixed effects	Fixed effects after matching <sup>a</sup>
Consultation and medicine spending as a share of monthly household expenditure	-0.00593 (0.00427)	-0.00106 (0.00451)	-0.000206 (0.00456)
Transport and other costs as a share of monthly household expenditure	-0.00186 (0.00168)	-0.000239 (0.00168)	0.000249 (0.00170)
Total healthcare spending share of monthly household expenditure	-0.00778 (0.00522)	-0.00130 (0.00540)	4.23e-05 (0.00545)

## Conclusions

- The pilot scheme increases the probability and intensity of outpatient care use. On average, the increase in outpatient healthcare use per insured household member is 0.079 visits
- The scheme increases utilization of care from public sources but not from private providers
- Among alternative types of public health facilities, the scheme increases use of health centers and reduces use of public hospitals. No impact is observed on utilization of care from health posts.
- There is no significant difference in OOP healthcare expenditure attributed to enrollment in the scheme.

Thank You!

