

CATASTROPHIC HEALTH CARE
EXPENDITURE AND FINACIAL RISK
PROTECTION AMONG HOUSEHOLDS OF
UDUPI DISTRICT; SOUTH INDIA

Richa Jaswal, Anil Krishna, Sreemati mayya

Presenter: Richa Jaswal

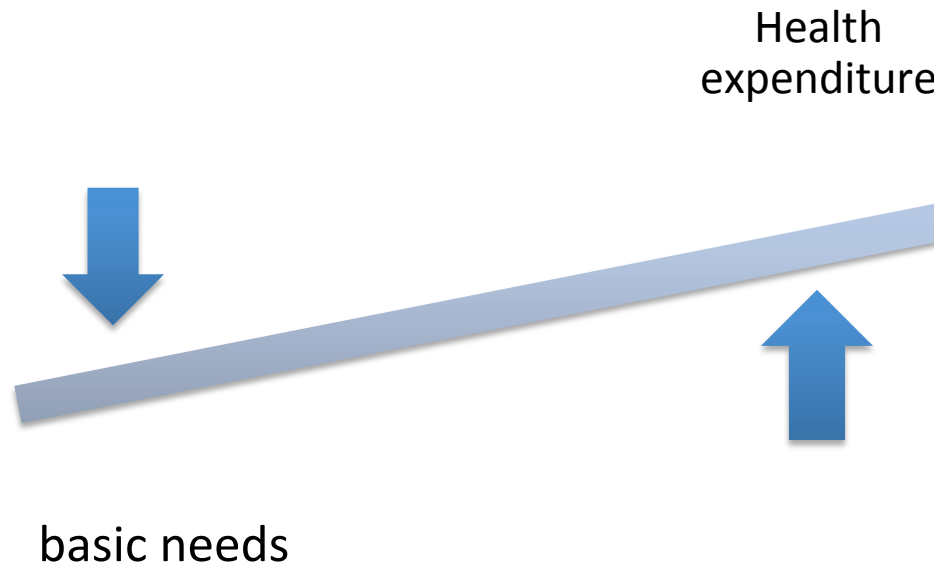
Background

- Poverty and Ill Health – a vicious cycle
- Universal Health coverage – key target ^[1]
- In India, thirty two and a half million people fall below the national poverty line by making out-of- pocket payments for health care in a single year. ^[1]
- Only 10 % of country's population is covered from some form of insurance^[2]

Research Questions

1. What proportion of household in Udupi district are incurring catastrophic health expenditure ?
2. Whether the existing financial protection mechanisms protecting the households from catastrophic payments ?
3. To study community's perception about existing financial protection mechanisms for health care.

Catastrophic health care expenditure



Methodology

Operational definition of catastrophic health expenditure (CHE)

- In this study; Catastrophic expenditure was calculated in relation to household consumption expenditure (food + non-food).
- it is said to have occurred when,

$$T/x > Z (10 \%) [2]$$

Where,

T is the OOPE on health (DHCC+ DNHC+ Indirect health care cost)

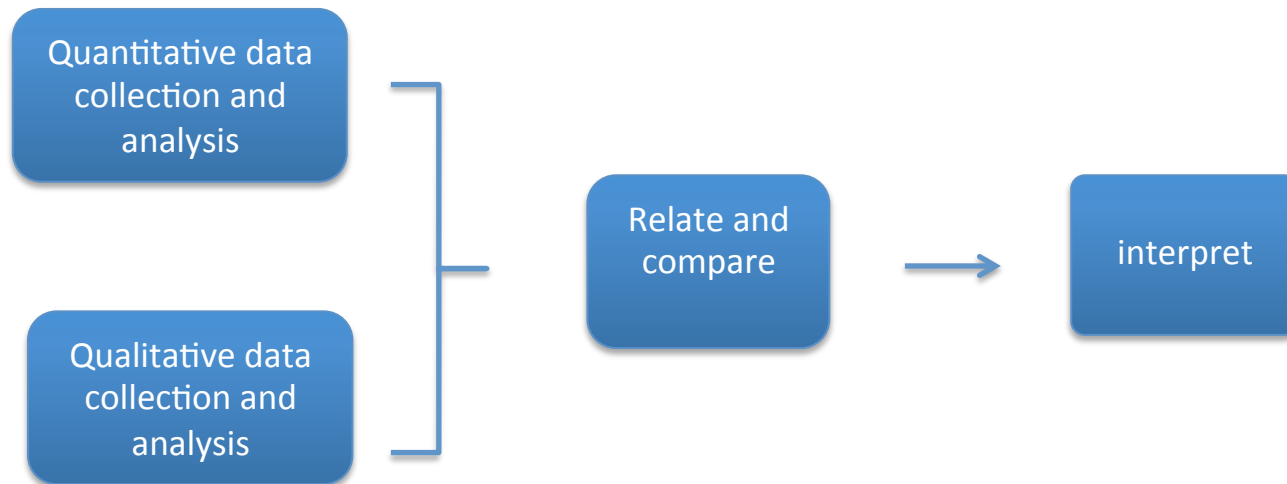
X is the household consumption expenditure,

Z is the threshold value

Research design

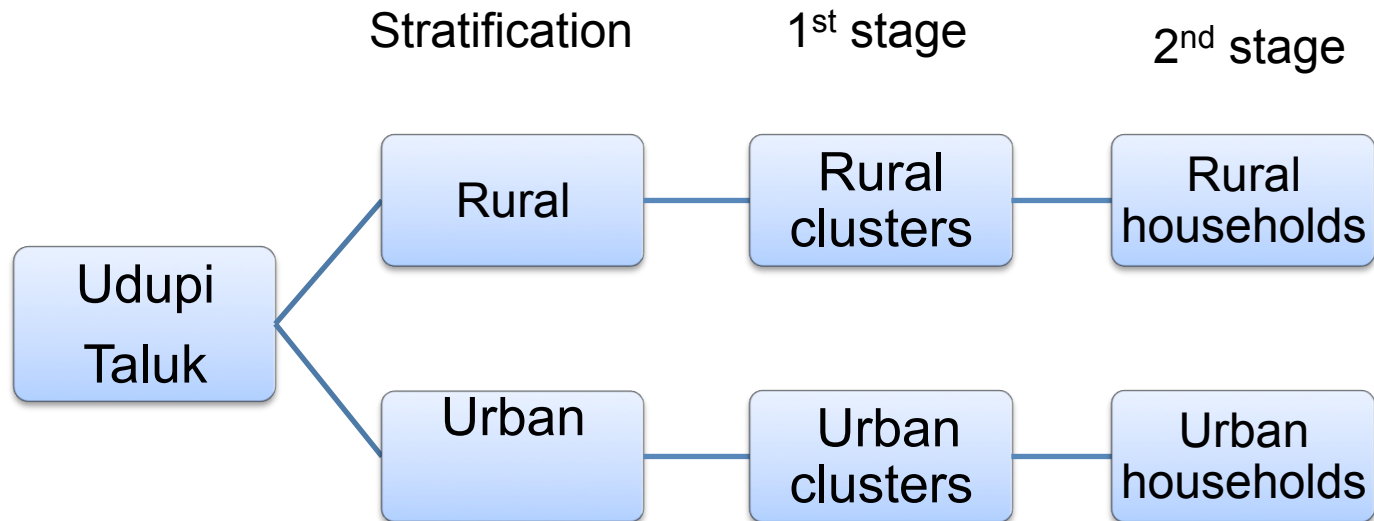
- **Survey** : Interviewer administered, cross-sectional household survey
- **Study area** : Udupi
- **Study design** : Convergent parallel design (mixed method)

Research design



Sampling technique

- Two stage sampling technique
 - 1st stage - clusters selected
 - 2nd stage – households are proportionally allocated



Sample size estimation

$$n = \frac{z^2 \alpha p(1-p)}{d^2}$$

$Z\alpha$ = Value at a specified confidence level (95%)
 P = Prevalence of catastrophe 60 % [3]
 d = 5%

$$\frac{(1.96)^2 \times 0.6 \times 0.4}{(0.05)^2} = 370$$

Taking Design Effect of 1.5

$$n = 555$$

After taking the non response rate of 10 % (NR)

Final sample size= 616

Data collection

Quantitative

Sections		Reference Periods
1	Particulars of head of the household	-----
2	Household characteristics	-----
3	Household consumption Expenditure	30 days
4	Household morbidity and treatment seeking behavior	15 days
5	OOPE outpatient care	15 days
6	OOPE inpatient care	365 days
7	Chronic disease drug cost	30 days
8	Source of Financing health care	-----

Qualitative: In depth interviews, with the help of qualitative guide

Analysis

Quantitative

- Analysis is done using SPSS version 15
- Reference period is scaled to one year to report proportion of household incurring CHE

$$\frac{(\text{OOPE outpt. 15days} \times 2 \times 12) + (\text{OOPE inpt. 365 days}) + (\text{CD medicine cost 30 days} \times 12)}{(\text{HCE 30 days} \times 12) + (\text{HCE 365})}$$

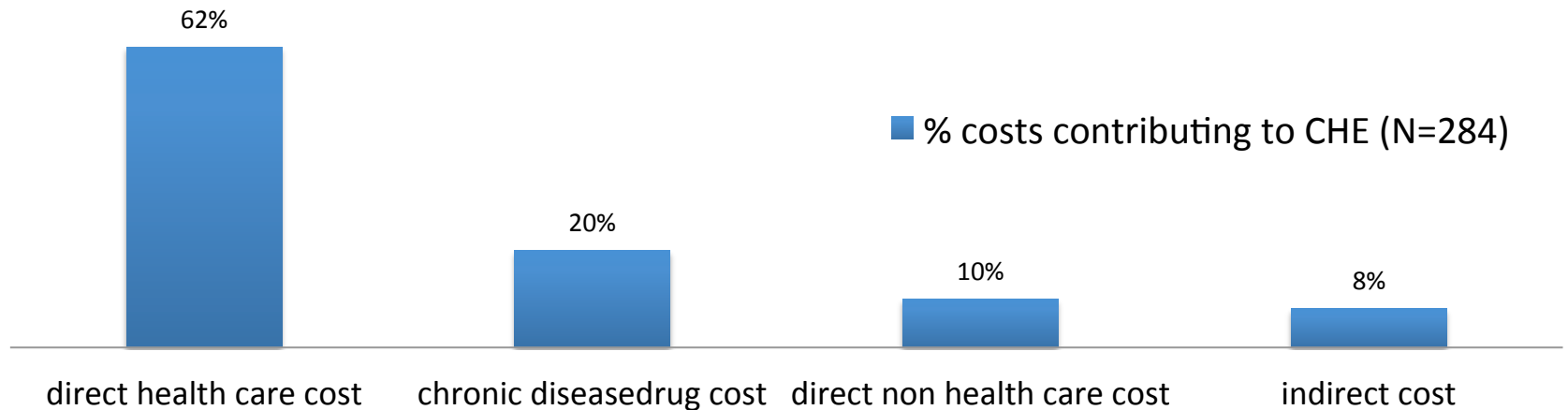
- Multiple logistic regression analysis was done to identify the household characteristics associated with CHE

RESULTS

Catastrophic health care Expenditure (CHE)

CHE	Prevalence	Confidence interval
T/X >10%	0.46	(0.42, 0.50)

Distribution of cost across CHE (n=284)

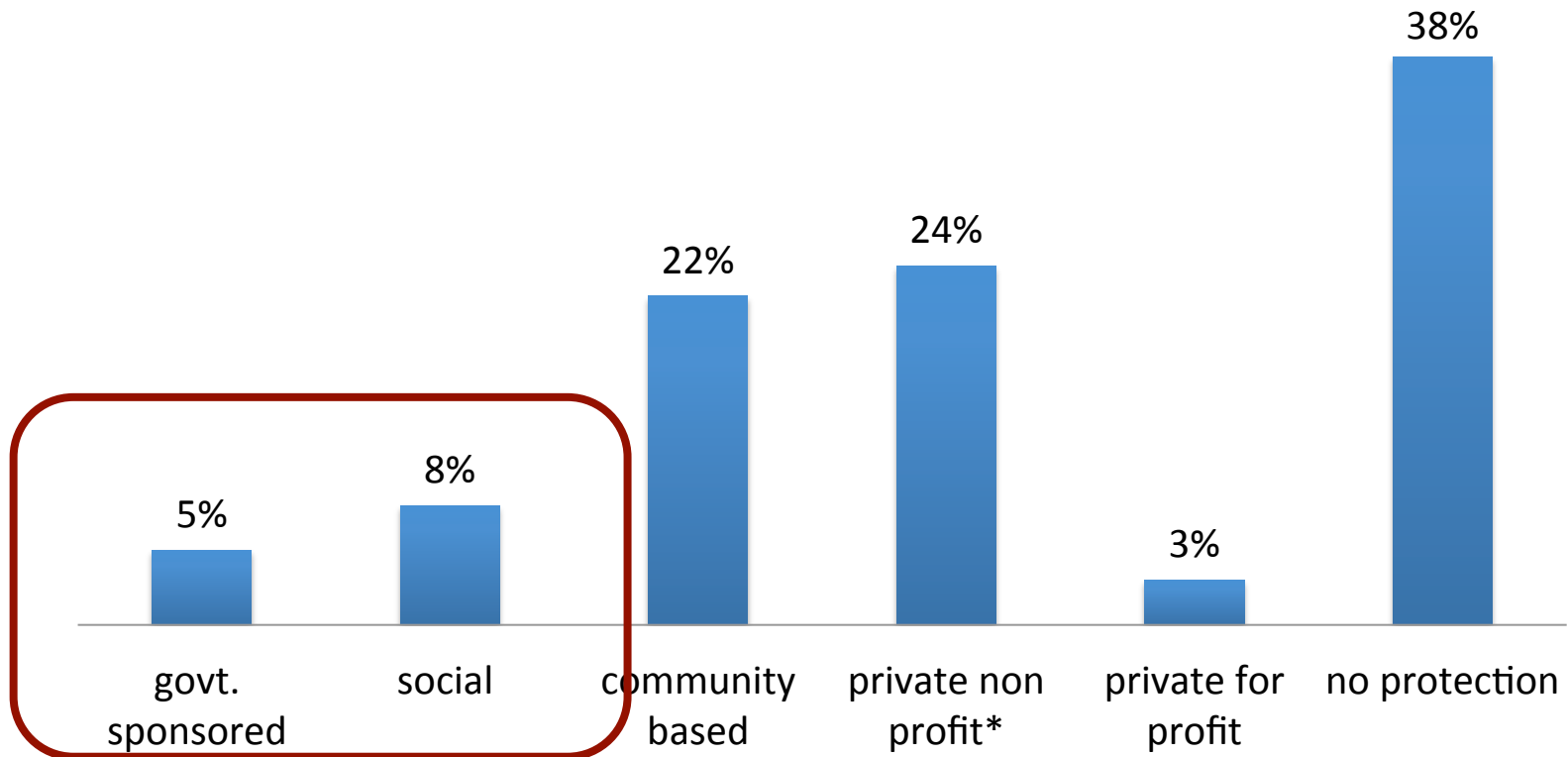


Financial protection Mechanisms for health care

	Types of Insurance	Coverage	Premium
1	Social Health Insurance	Formal sector- government Employees	Wage based contribution
2	Private Health Insurance	voluntary	Providers discrepancy
3	Community Health Insurance	Voluntary	Community discrepancy
4	Government sponsored Health Insurance	Vulnerable section	Shared by central and state government

Financial protection Mechanisms for health care

Bar graph showing type of insurance coverage (n=616)



*Manipal health card

Perception about existing health insurance schemes

- Majority borrowed money despite being covered under health insurance.
 - Low premium low benefits
 - Enrollment and Reimbursement issues
 - No outpatient expenditure coverage
 - No disability benefits despite of occupational injury

*“last year my son met with an accident and I had to take money from my relatives to get the treatment going, although I was reimbursed last month, but **I did not get It when I needed it the most.** (CGHS enrollee)*

*“I am disabled from past 15 years , I lost my limb due to an accident at work place (crusher unit). I can no longer work. I am also diagnosed with diabetes., I am a burden to the family, I wish I could die and not be a burden to the family anymore. **(ESI enrollee)***

TESTING THE SIGNIFICANCE:

Households characteristics associated with catastrophic health expenditure

Predictors	Unadjusted OR (95%CI) of CHE at 10% threshold	Adjusted OR (95%CI) of CHE at 10% threshold
MHCE quintiles		
1 (4000) Poorest	3.04 (1.8-5.11)	3.22 (1.44 -5.71)
2 (4001-7000)	2.51 (1.36 4.62)	3.16 (1.34 – 7.42)
3 (7001-10000)	2.42 (1.41-4.15)	1.8 (0.85 3.87)
4 (10001-20000)	1.55 (0.89-2.67)	2.16 (1.06 -4.4)
5 (20000) least poor	.....	.....
Area		
Rural	3.12 (2.14-4.56)	2.96 (1.56-5.6)
Urban	....	....
Source of drinking water		
Well	1.45 (1.03-2.05)	0.68 (0.4 -1.4)
Tap	.....	.....
Chronic disease		
Present	2.08 (1.5-2.87)	2.01 (1.79- 4.6)
absent	.....	....

Cont..

Household characteristics	Unadjusted OR (95%CI of CHE at 10% threshold)	Adjusted OR (95%CI of CHE at 10% threshold)
Health insurance		
Yes	0.6 (0.5- 0.9)	0.01 (0.8-2)
no	....	....
Children <5 years		
1 or more	1.89 (1.32-2.69)	1.64 (1.04 -2.6)
No children	.....	.....
Elderly above 60 years		
1 or more	2.63 (1.63-3.12)	2.0 (1.3 -3.0)
No elderly member	.....	.....
Provider preference		
Private	2.78 (1.55-4.97)	4.83 (2.37 – 9.8)
public	....	.....

Conclusion and Policy Recommendations

1. Despite low cost care in public facility respondents 79% preferred private care.
 - Strengthening public health facilities.
 - ceiling the prices at private sectors
2. Untreated morbidity due to financial constraints – 22 %
3. Existing financial protection mechanisms were ineffective in reducing CHE
4. Both direct, indirect cost with respect to both outpatient and inpatient contributed to CHE.
 - Designing comprehensive insurance schemes
5. Household with a member >60yrs, <5 years, having chronic disease and were at higher odds of incurring CHE
 - Special benefit packages for groups that are most at risk of these payments.
6. Low coverage of government and social health insurance schemes
 - IEC for existing schemes

Limitations

- This methodology used in the present study identifies only those households that pay and seek health care when ill and ignores those that forgo treatment .
- As this survey recorded self - reported expenditure, **information bias** can under or overestimate the outcome of study.

References

1. <http://www.undp.org/content/undp/en/home/sdgoverview/post-2015-development-agenda/goal-3.html>
2. O'Donnell O, Van Doorslaer E, Wagstaff A, Lindelow M: Analyzing health equity using household survey data: A guide to techniques and their implementation. Washington DC: The World Bank; 2008. Available from URL:
http://books.google.co.in/books?id=8krsjfKv2vgC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false
3. Prinja Shankar , Kanavos Panos, Kumar Rajesh. Health care inequities in north India: Role of public sector in universalizing health care. Indian J Med Res [Serial online] 2012 [cited 2013 Nov18]; 136: 421-31. Available from: URL: <http://www.icmr.nic.in/ijmr/2012/september/0909.pdf>



THANK YOU