CATASTROPHIC HEALTH EXPENDITURE IN AN URBAN CITY: SEVEN YEARS AFTER UNIVERSAL COVERAGE POLICY IN THAILAND

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Abstract. This study explored the burden of household out-of-pocket health expenditure on urban inhabitants with different socio-economic status and health insurance schemes in Nakhon Sawan Municipality. This study employed a cross sectional survey by using a structured questionnaire. Health personnel from six primary care units interviewed a representative of the sampled households. Sampled households were selected by a two-stage random sampling technique. Descriptive statistics were used to describe general household characteristics, and Mantel-Haenszel odds ratio was used to explain the relationships between factors and catastrophic health expenditure. From 406 sampled households, there were 1,421 household members and 340 individuals who reported illness within the last month. The poor and non-poor groups reported hypertension, diabetes, and the common cold as the most common ailments. Most patients sought care at a regional hospital and then primary care units, drug stores, and private hospitals, respectively. Household out-of-pocket medical costs were most frequently paid to drug stores and to private clinics. The direct non-medical costs were mostly paid for transportation and food. Factors related to catastrohpic health expenditure were the Civil Servant Medical Benefit Scheme (CSMBS) cardholder, use of public hospital, private hospital, and clinic. Furthermore, catastrophic expenditures were related to non-medical costs and time loss for indirect cost. Catastrophic rates of the poor were 12.5 and 30.4% from direct and non-medical cost, respectively. The rates for the non-poor were lower.

Keywords: catastrophic health expenditure, equity in health, out-of-pocket payment, Thailand

INTRODUCTION

Ill-health and poverty are mutually reinforcing and can generate a vicious cycle of deterioration and suffering in rapid growth urban areas. Important factors involved are dense settlement (Department of Commerce, 2002); increasing population (Vlahov and Galea, 2002); inadequate provision for infrastructure and public services (USAID, 2004); negative impact on health from changing life-

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style of urban dwellers affected by HIV/AIDS (Van Donk, 2006); traffic accidents and non-communicable diseases (WHO and World Bank, 2004); and violence and crime, mental illness, and substance abuse (Allison *et al*, 1999; Izutsu *et al*, 2006).

The World Health Organization defined universal coverage as a mechanism to guarantee equal access to essential promotive, preventive, curative and rehabilitative health interventions for all citizens at an affordable cost, thereby achieving equity in access. The principle of financial-risk protection ensures that the cost of care does not put people at risk of financial catastrophe. A related objective of health-financing policy is equity in financing (vertical equity): households contribute to the health system on the basis of ability to pay (WHO, 2008).

Thailand's 2001 Universal Coverage Policy (Information Data and Communication Division, 2008) covers almost all (98.9%) Thai citizens through three main government health insurance schemes: the Civil Servant Medical Benefit Scheme (CSMBS), the Social Security Scheme (SSS), and the Universal Coverage (UC) scheme. Nevertheless, non-medical household out-of-pocket payments, related to healthcare, still exist and cause household financial burden, particularly on the poor households in rural and urban areas. Despite the availability of health facilities in urban cities and the existence of universal coverage policy, many studies revealed that households still pay out-of-pocket for health care expenditures (Pannurunothai and Mills, 1997; Pannarunothai and Rehnberg, 1998; Sujariyakul, 2000; Pannarunothai *et al*, 2002; Xu *et al*, 2003; Limwattananon *et al*, 2007; van Doorslaer *et al*, 2007; Weraphong *et al*, 2007).

This study explored household catastrophic health expenditure in an urban city seven years after UC policy implementation. Nakhon Sawan was chosen because it is a large province in lower northern Thailand with average national economic growth. Within Nakhon Sawan Municipality, there were many types of healthcare facilities, comprising both public and private sectors, such as a public regional hospital, primary care units, municipal health centers, private hospitals, private clinics, and private drug stores. The results could be generalized for other urban areas as it did for the voluntary health card project in the 1980s.

MATERIALS AND METHODS

A cross sectional survey was conducted in December 2008 on 40 urban communities of Nakhon Sawan Municipality. Structured questionnaires were used to collect the data described below.

Sample size

Cochran's formula (Cochran, 1997) was used for estimating the sample size. In 2008, Nakhon Sawan Municipality had 27,597 households with a total population of 90,454. The coverage rate of health care insurance was 99.4%. Therefore, the result from the calculation was about 387 households.

Sampled households

A two-stage random sampling technique was used for selecting households participating in the study. The first stage was to randomly select 40 clusters from 61 communities of Nakhon Sawan Municipality proportionately on household number. Disproportionate sampling was used to select 10 households in each cluster in the second stage. To improve estimates of income effects, disproportionate sampling

(Kalton and Anderson, 1986) was used to select five poor and five non-poor households from each community. The poor households were randomly selected from the list of the Poverty Reduction Project that covered all the poor families, and the non-poor households were randomly selected from a household list of the six primary care units covering all households in the community.

Questionnaire

The structured questionnaire used in this study was adapted from the household survey questionnaires of the Centre for Health Equity Monitoring (CHEM), Faculty of Medicine, Naresuan University (Pannarunothai *et al*, 2002). The questionnaire was tested for reliability before using.

The first part of the questionnaire asked details about household demographics, and socio-economic and household members' health status data. Demographic data included age, sex, education level, nationality, religion, health insurance, and occupation of household members. Socio-economic data included household income, expenditure, sources of income, assets, and debt of sampled households. Health status data included illnesses and healthcare utilization of household members in the previous month.

The second part asked about the samples' illness experiences in the previous month, followed by health seeking behaviors for each illness (use of health care services, use of health benefit coverage). The questions further asked about household health financing patterns (direct out-of-pocket health expenditure, medical cost paid directly to health care providers, and other out-of-pocket expenditure related to health care, such as transportation cost, food cost, working time loss and cost, and foregone income loss. The final questions focused on coping strategy of households faced with costs that household could not pay upfront (they had to sell household products, assets, or borrow money from others, etc).

Interview

Health personnel working at six public primary care units in Nakhon Sawan Municipality were trained to be interviewers by the principle investigator (JW). Face-to-face interview technique was used for collecting household data. To reduce response bias, the trained-health personnel from another primary care unit carried out household interviews. The key informant of each sampled household acted as proxy respondent providing data of all household members to the interviewer.

Ethical considerations

This study was approved by the Institutional Review Board of Naresuan University (Ref No. 52202030010, 2009 Dec 22).

Data analysis

The demographic characteristics were presented by using descriptive statistics, which included frequency, percentage, mean, median, and standard deviation. Household socio-economic status was classified into the poor and the non-poor by using the poverty line as a threshold as the samples were taken from two different sampling frames. Catastrophic health expenditure was defined as household with out-of-pocket health expenditure exceeding 10% of all household expenditure in a month (Xu *et al*, 2003). Household health expenditure comprised direct medical cost paid directly to health providers, and direct non-medical cost and other indirect costs related to their illnesses. The relationships between demographic

characteristics, residence area, socio-economic status, and household catastrophic health expenditure were analyzed by the Mantel-Haenszel chi-square test.

RESULTS

The face-to-face interviews produced 406 completed questionnaires, with 1,421 household members of whom 340 reported illnesses. The results of the study were presented in four parts: general characteristics, illness and health seeking behaviors, household out-of-pocket health expenditure and household catastrophic health expenditure, and equity in health care expenditure between the poor and non-poor households.

General characteristics

The total of 406 households were reclassified as poor or non-poor, using the poverty line as the threshold based on the most recent assessed income. The poverty line in the urban area of the lower north of Thailand in 2008 adjusted for inflation rates (Jitsuchon, 2004) was THB1,539.8 (approximately USD45)/person/month. From the specified threshold, 13.8% of sampled households had incomes under the poverty line; therefore, were designated as poor households.

In terms of individuals, 10.1% of the respondents were living in poor households and 89.9% in non-poor households. There were more females than males in both poor and non-poor households, but predominantly there were twice as many females in the poor than in the non-poor. There were also more elderly in the poor households than in the non-poor ones.

About one-third of the poor (34.7%), but less than a quarter of the non-poor (22.7%), reported illness in the 30-day recall period. Both groups had equally high health insurance coverage (96%). The UC scheme provided coverage to 91.0% of the poor, but only 76.8% of the non-poor (Table 1). For the non-insured (6 poor and 56 non-poor), many of them were the elderly or children who had never accessed health services; therefore they were not registered and had no health card. A few of them were migrant laborers who also had no health card.

Table 1
General household characteristics.

Characteristic	Poor	Non-poor
	n (%)	*n* (%)
Number of households	56 (13.8)	350 (86.2)
Resided in slum area	20 (35.7)	109 (31.1)
Sex		
Male	56 (38.9)	580 (45.4)
Female	88 (61.1)	697 (54.6)
Total	144	1,277
Age group (years)		
< 5	5 (3.4)	95 (7.5)
5-20	19 (13.2)	293 (22.9)
>20-35	19 (13.2)	242 (18.9)
>35-60	39 (27.1)	439 (34.4)
>60	62 (43.1)	208 (16.3)
Total	144	1,277
Household members	144 (10.1)	1,277 (89.9)
Report illness	50 (34.7)	290 (22.7)
Health insurance		
UC	131 (91.0)	981 (76.8)
CSMBS	6 (4.2)	103 (8.1)
SSS	1 (0.7)	128 (10.0)
Others	0 (0.0)	9 (0.7)
No insurance	6 (4.2)	56 (4.4)

UC, Universal Coverage; CSMBS, Civil Servant Medical Benefit Scheme; SSS, Social Security Scheme

The mean income of the poor households was THB2,400/month, whereas the mean income of the non-poor households was higher, at THB15,000/month. The mean household expenditure in the poor households was THB3,300; lower than the non-poor households of THB9,300/month.

Table 2
Household financing.

Household financing	Poor (*n*=56)			Non-poor (*n*=350)		
	Median	Mean	SD	Median	Mean	SD
Monthly income (THB1,000)	2.0	2.4	1.5	10.0	15.0	16.5
Monthly spending (THB1,000)	2.8	3.3	3.1	7.6	9.3	6.8
Asset (THB1,000)	32.5	115.4	188.1	165.8	500.3	1,035.4
Debt (THB1,000)	4.9	30.2	56.3	20.0	158.4	486.3

Household assets of the poor were one-fifth of the non-poor, and this was true for household debt as well (Table 2).

Most of the key informants were the spouses of the household heads or their mothers: 60.7% in the poor and 72.6% in the non-poor households. Most of them completed primary school education (57.1 and 62.9%, respectively). Almost all key informants in this study were Buddhist (Table 3).

Table 3
General characteristics of key informant.

Characteristics	Poor (*n*=56)	Non-poor (*n*=350)
	n (%)	*n* (%)
Relation with head of household		
Father	2 (3.6)	27 (7.7)
Mother	16 (28.6)	115 (32.9)
Son/daughter	4 (7.1)	29 (8.3)
Spouse	18 (32.1)	139 (39.7)
Others	16 (28.6)	40 (11.4)
Education level		
No education	15 (26.8)	49 (14.0)
Primary school	32 (57.1)	220 (62.9)
Secondary school	7 (12.5)	46 (13.1)
Certificate	1 (1.8)	19 (5.4)
Bachelor and higher	0 (0.0)	10 (2.9)
Others	1 (1.8)	6 (1.7)
Religion		
Buddhist	56 (100.0)	346 (98.9)
Christian	0 (0.0)	4 (1.1)

Morbidity rate

The morbidity rate of the poor was higher than the non-poor (347.2 and 227.1/1,000 populations, respectively). The most commonly reported illnesses were hypertension, diabetes, and common cold; the rates were 76.3, 69.4, and 27.8/1,000 populations in the poor and 51.7, 43.1 and 28.2/1,000 populations in the non-poor. The elderly consistently exhibited a higher morbidity, especially hypertension and diabetes, in the poor households (Table 4).

Health seeking behaviors

Facilities they chose for care when members of the sampled households became ill were the focus of this section. Sampled population who reported illness (383 people) made 434 visits to health facilities (50 of the poor who reported illness reported 62 health visits and 290 non-poor reported 312 visits). Most of the poor and the non-poor sought care at a tertiary regional hospital, primary care units, and drug stores at 38.7, 30.6, and 12.9% in the poor, and 36.8, 27.6 and 11.9% in the non-poor, respectively (Table 5).

Household out-of-pocket health expenditure

In the present study, household out-

Table 4
Morbidity rates of leading diseases by socio-economic group.

Disease	Poor (*n*=144)		Disease	Non-poor (*n*=1,277)	
	n	Rate/1,000 populations		*n*	Rate/1,000 populations
1. Hypertension	11	76.3	1. Hypertension	66	51.7
2. Diabetes	10	69.4	2. Diabetes	55	43.1
3. Common cold	4	27.8	3. Common cold	36	28.2
4. Psychiatric	2	13.9	4. Paralyze	8	6.3
5. Paralyzed	2	13.9	5. Peptic ulcer	7	5.5
6. Motorcycle accident	2	13.9	6. Allergy	7	5.5
7. Asthma	2	13.9	7. Leg pain	6	4.7
8. Cataract	2	13.9	8. Tooth ache	6	4.7
9. Heart	2	13.9	9. Back pain	6	4.7
10. Others	13	90.3	10. Others	93	72.8
Total	50	347.2	Total	290	227.1

Table 5
Health seeking behaviors by socio-economic group.

Facilities	Poor (*n*=62)	Non-poor (*n*=312)
	n[a] (%)	*n*[a] (%)
Primary care units	19 (30.6)	86 (27.6)
Private clinics	4 (6.5)	21 (6.7)
Regional hospital	24 (38.7)	115 (36.8)
Drug stores	8 (12.9)	37 (11.9)
Other government hospitals	2 (3.2)	18 (5.8)
Private hospitals	5 (8.1)	35 (11.2)

[a]One patient used more than one facility.

of-pocket health expenditure was categorized into two categories: direct medical costs and direct non-medical including indirect costs. Direct medical cost was out-of-pocket payment directly to health care providers. Direct non-medical cost was out-of-pocket payment for transportation and food. Indirect costs covered income loss of patients and of caregivers, and loss of working time cost that was related to illness. The results from the household survey indicated that most households frequently paid out-of-pocket for direct medical cost at drug stores, private clinics, and the public hospitals at 16.0, 6.0, and 4.0% of the poor households, respectively. Compared to the non-poor households, out-of-pocket payments for direct medical cost were at 12.8, 7.2, and 5.8%, respectively (Table 6).

Direct non-medical cost and indirect cost related to illness were found to be more prevalent than the direct cost. Transportation cost was the most common other out-of-pocket payments for both poor and non-poor households (62.0 and 72.4% of households with illness) at the same median cost (THB40/month). The second most common was the food cost incurred in 38.0 and 26.9% of the poor and the non-poor households, respectively (Table 6).

Table 6
Household out-of-pocket health expenditure by socio-economic group.

Household out-of-pocket	Poor *n*=50)				Non-poor (*n*=290)			
	n (%)	Median (THB)	Mean (THB)	SD (THB)	*n* (%)	Median (THB)	Mean (THB)	SD (THB)
Direct medical cost								
Drug stores	8 (16.0)	100.0	171.3	195.7	37 (12.8)	80.0	140.0	247.8
Private clinics	3 (6.0)	140.0	406.7	514.7	21 (7.2)	400.0	441.4	349.5
Public hospital	2 (4.0)	540.0	540.0	650.5	10 (3.4)	1,030.0	2,004.0	2,534.6
Other government hospitals	0 (0.0)	0.0	0.0	0.0	7 (2.4)	2,700.0	9,800.0	13,835.1
Private hospitals	1 (2.0)	6,000.0	na.	6,000.0	18 (6.2)	900.0	2,326.7	3,326.4
Direct non-medical and indirect								
Transportation	31 (62.0)	40.0	89.8	117.8	210 (72.4)	40.0	94.6	271.7
Food	19 (38.0)	30.0	126.6	263.0	78 (26.9)	50.0	116.8	252.6
Loss of working time cost	3 (6.0)	150.0	183.3	104.1	26 (8.9)	200.0	350.0	374.6
Income loss of patient	1 (2.0)	350.0	350.0	na.	14 (4.8)	290.0	820.0	1,417.2
Income loss of care giver	0 (0.0)	0.0	0.0	0.0	9 (3.1)	150.0	313.3	321.6
Others	3 (6.0)	20.0	23.3	5.8	1 (0.3)	50.0	50.0	na.

Table 7
Incidence of household catastrophic health expenditure by socio-economic group.

	Catastrophe	
	Poor (*n*=56)	Non-poor (*n*=350)
	n (%)	*n* (%)
Direct medical cost	7 (12.5)	25 (7.1)
Non-medical and indirect cost	17 (30.4)	64 (18.3)

Catastrophic health expenditure and related factors

In the present study, household catastrophic health expenditure was defined as household out-of-pocket health expenditure exceeding 10% of all household expenditures in a month. Data of 406 households collected from 40 communities found that the incidence of catastrophic health expenditure from both direct and indirect costs were higher in the poor than the non-poor households.

The incidence of household catastrophic health expenditure, when breaking down into direct medical costs, were 12.5% of the poor and 7.1% of the non-poor households faced with catastrophe. The non-medical and indirect costs were 30.4% of the poor and 18.3% of the non-poor households facing catastrophe (Table 7).

The relationships between contributing factors and catastrophic household expenditures were analyzed by Mantel-Haenszel chi-square test to control for the poor and non-poor covariate. For direct medical cost, the CSMB cardholders faced catastrophe 3.79 times higher than other cardholders did (p=0.004). Seeking care in a catastrophe at a public hospital was 14.81 times higher than seeking care at other facilities did (p=0.001). Seeking care at a private clinic had 3.70 times higher and at private hospital had 24.07 times higher when faced with a catastrophe than otherwise (p=0.01 and 0.001, respectively) (Table 8).

Other factors related to catastrophic health expenditure were transportation cost and time loss. Spending for transportation to seek care had a higher risk than not spending at 1.47 times. Patients whose time was lost in seeking care had 3.04 times higher risk when faced with catastrophe than those who did not (p=0.02) (Table 9).

DISCUSSION

Urban poverty has become a global phenomenon. In the year 2002, 746 million people in urban areas were living under the international convention of the poverty line of less than USD2/day (Ravallion *et al*, 2007). The absolute number of urban poor has increased over the last fifteen to twenty years at a rate faster than in rural areas. Rapid urban growth has made Asia home to the largest share of the world's slum dwellers (USAID, 2004). Financial barriers to access of healthcare are an important cause of limiting utilization of services and health outcome improvements in urban areas. A significant proportion of the urban population works in the informal sector and is classified as "poor." This has two key implications for financial access to healthcare: first, workers in the informal sector are difficult to be included in contributory insurance schemes. Second, the uninsured have to pay out-of-pocket costs that contribute to both the incidence and the depth of poverty. Moreover, community support structures, including non-market options of

Table 8
Incidence of catastrophic health expenditure from direct medical cost and contributing factors by socio-economic group.

Factor	Poor	Non-poor	df	*p*-value	Odds ratio	95% Confidence interval	
	% (*n*)	% (*n*)					
Health insurance							
CSMBS			1	[a]0.004	3.79	1.57	9.11
Yes	0.0 (2)	16.7 (54)					
No	13.0 (54)	4.4 (296)					
UC			1	0.71	0.61	0.17	2.20
Yes	12.5 (56)	6.0 (318)					
No	0.0 (0)	9.4 (32)					
SSS			1	0.870	1.21	0.48	3.06
Yes	0.0 (1)	7.3 (96)					
No	12.7 (55)	5.9 (254)					
Health seeking behavior							
Public hospital			1	[a]0.001	14.81	5.46	40.15
Use	50.0 (2)	42.1 (19)					
Not use	11.1 (54)	4.2 (331)					
Drug store			1	0.187	2.21	0.84	5.82
Use	37.5 (8)	8.1 (37)					
Not use	8.3 (48)	6.1 (313)					
Clinic			1	[a]0.010	3.70	1.27	10.81
Use	28.6 (7)	13.6 (22)					
Not use	2.0 (49)	6.1 (328)					
Private hospital			1	[a]0.001	24.07	8.78	65.98
Use	100.0 (1)	45.5 (22)					
Not use	10.9 (55)	3.7 (328)					

[a]Significant at *p*-value <0.05; CSMBS, Civil Servant Medical Benefit Scheme; UC, Universal Coverage; SSS, Social Security Scheme

borrowing for healthcare (a catastrophic protection mechanisms), are hard to find in urban areas (WHO, 2010).

A study of household catastrophic health expenditure in Thailand in 2004 found that some households still faced catastrophe and impoverishment (Limwattananon *et al*, 2007). Bypassing the designated services without proper referral resulted in the use of inpatient services in private and public hospitals outside the users' home provinces, and services not covered by the package were major causes of catastrophic expenditure and impoverishment.

The catastrophic health expenditure in the present study used the WHO definition for catastrophic health expenditure as household out-of-pocket health expenditure exceeding 10% of household expenditure in a month. The present study found that it was valid for detecting catastrophic health expenditure in the poor households, but it had some problems

Table 9
Incidence of catastrophic health expenditure from non-medical and indirect cost by socio-economic group.

Factor	Poor	Non-poor	df	*p*-value	Odds ratio	95% Confidence interval	
	% (*n*)	% (*n*)					
Non-medical cost							
Transportation			1	0.158	1.47	0.89	2.39
Use	60 (25)	59.3 (64)					
Not use	51.6 (31)	49.6 (286)					
Food			1	0.520	1.24	0.72	2.14
Use	24 (25)	21.9 (82)					
Not use	35.5 (31)	19.9 (268)					
Indirect cost							
Time loss			1	[a]0.020	3.04	1.27	7.28
Yes	8 (25)	12.5 (64)					
No	0 (31)	5.2 (286)					
Wage loss (patient)			1	0.450	1.69	0.46	6.14
Yes	8 (25)	3.1 (64)					
No	0 (31)	3.1 (286)					
Wage loss (care giver)			1	0.890	1.29	0.26	6.34
Yes	0 (25)	3.1 (64)					
No	0 (31)	2.4 (286)					

[a]Significant at p-value <0.05

in the non-poor households. From the collected data, all sampled households reported some expenditure. Health expenditure in the poor households was commonly a significant fraction of their household income, so it was an effective tool to measure catastrophic expenditure in this group.

A number of sampled households on the poor list were later classified as non-poor by the poverty line, indicating that the non-poor households in the present study were actually not rich households. Even the CSMBS cardholders were at risk of facing catastrophic health expenditure because of the uncovered services (drugs, devices, and surcharges for room and board) at public hospitals. The use of public hospitals contributed to catastrophic access, which suggested that the sampled households had less faith in the primary care units close to their homes, and they preferred to pay out-of-pocket for bypassing services.

In the present study, transportation cost was a significant proportion of other out-of-pocket expenditures to both poor and non-poor households in this urban area; then food costs and costs of working time loss. The poor were more vulnerable than the non-poor when experiencing catastrophic health expenditure from non-medical and indirect costs. Furthermore, out-of-pocket payments for non-medical cost (both poor and non-poor paid almost the same level by median and by mean,

Table 6) caused more poor households to face catastrophe. These patterns reveal an inequity in household health expenditure in an urban city despite the universal coverage policy.

More than half of the world population resides in urban cities. Rapid and unplanned urbanization poses new challenges for already overstretched and weak health systems worldwide. Evidence from the present study reinforces the recommendations of the World Health Report 2010 that the monitoring and evaluation of the universal coverage should focus on policy effectiveness of protecting households from catastrophe or impoverishment (WHO, 2010). The findings also confirm that catastrophic health expenditure occurred more in households with a greater proportion of elderly members (Somkotra and Lagrada, 2009).

The government of Thailand should consider providing the urban poor higher accessibility to health care facilities, such as drug stores and private clinics, apart from the public primary care unit closest to people's homes. The study of the Community Pharmacy Model under the Universal Coverage Scheme indicated that community pharmacists were efficient healthcare providers who provided good access to care with good quality pharmacies on a controlled payment scheme (Lochid-amnuay *et al*, 2009). Therefore, the healthcare system in Thailand should consider involving drug stores in providing easier access to healthcare. This could reduce household financial burden, especially in the poor households.

The strengths of this study were that first-hand data were collected directly from sampled households by interview technique, conducted by local health workers working in the study area; biases were reduced by assigning another health worker for the interviews. Therefore, the reliability of the data was less in doubt. Furthermore, the questionnaires employed for data collection focused on non-medical cost related to health care expenditure that is commonly not available in national surveys. The sampling strategy of randomly selecting an equal number of poor and non-poor households from the list made comparisons between poor and non-poor possible.

Weaknesses of the study were that it was the cross sectional survey; the methodology normally detected only the situations occurring at the survey time, and quality of care was difficult to measure. Proxy respondents for the family members may cause inaccuracies; nevertheless, the present study encouraged the research team to collect follow-up data on the sampled households that faced catastrophe to validate the results. Non-representative, cluster sampling strategy, and a small sample size of poor households inhibited more robust statistical analyses to higher confidence conclusions.

Access to care in urban areas is a critical problem that exists around the world. The main principle of universal coverage policy is to ensure that people have access to key promotive, preventive, curative, and rehabilitative health interventions at an affordable cost. Accessibility to health care depends on various factors, such as being a health insurance member, perceived quality of healthcare service, quantity and distribution of healthcare resources and facilities, barriers on service arrangements, and official time of healthcare facilities. The findings from the present study suggested that the urban poor were sicker and still faced catastrophic health expenditure from their health seeking behaviors via the healthcare system provided in urban areas.

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