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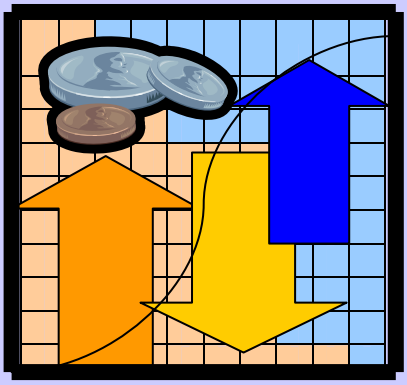

Financial risk protection of National Health Insurance in the Republic of Korea:1995-2007

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Financial risk protection of National Health Insurance in the Republic of Korea:1995-2007

by

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Abstract

Objectives: Korea achieved universal population coverage through national health insurance in 1989. However, out-of-pocket payments (OOP) still accounted for 36% of total health expenditure in 2006. This paper aims to provide evidence for improving the benefit package through analyzing household financial burden.

Methods: OOP and the incidence of catastrophic health expenditure were analysed using data from the Household Income and Expenditure Survey from 1995 to 2007.

Results: The results show that OOP as a share of total household consumption expenditure were between 4% and 5% from 1995 to 2007. The incidence of catastrophic health expenditure has increased in recent years, from a low point of 1.6% in 2001, to 3% in 2007. The richest quintile had the highest incidence of catastrophic health expenditure, followed by the poorest quintile. However, the causes of the catastrophic expenditure are different among these groups: it is driven by inpatient and dental services among the richest quintile, whereas drug and outpatient services are main drivers for the poorest quintile.

Conclusions: Our results suggest that the benefit package need to be rationalized by expanding coverage for inpatient care and particularly addressing special charges. On the other hand, entitlements to other types of benefits such as pharmaceuticals should be restricted.

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Introduction

Korea is often cited as a success story for its rapid achievement of universal coverage through national health insurance (NHI). Unlike most high income countries, which have taken many decades to reach universal coverage, after the legislation of the Medical Insurance Act in 1963, Korea reached universal popualtion coverage in 1989 (1). However, the mission is far from accomplished. Despite universal population coverage, Korea still has fairly high out-of-pocket payments when compared to other OECD countries. In 2006, out-of-pocket payments accounted for 36% of total health expendiure, when the average level in the OECD is about 20% (2). This paper evaluates the impact of the NHI on the distribution of household financial burden and its trend over the past 13 years, from 1995 to 2007.

Overview of national health insurance in Korea

Between 1963 and 1976, in practice, medical insurance consisted of voluntary schemes. In 1977, the Medical Insurance Act was implemented and companies with more than 500 employees had to be covered by medical insurance. (3). Two years later, the coverage expanded to the companies with more than 300 employees as well as school teachers and government officials. It was further extended to companies with more than 15 employees in 1983. The self-employed were the last group to join health insurance programs, with the urban self-employed joining in 1988, followed by the rural self-employed in 1989, when the Korean health insurance reached universal population coverage(4).

Until the year 2000, health insurance was managed by over 400 insurance societies. The integration reform of 2000 merged all the insurance schemes into a single scheme with a uniform benefit package(5). The National Health Insurance Corporation (NHIC) became responsible for enrolment, revenue collection as well as payment of providers. A parallel institute, the Health Insurance Review and Assessment Service (HIRA) is responsible for claims review and assessment. Both NHIC and HIRA are under the supervion of Ministry for Health, Welfare and Family Affairs.

The NHI covers 96% of the population, while the rest of the population is covered by the Medical Aid Program (MAP). The MAP is a part of the non-contributory social protection program covering the poor. There is no major difference in benefit packages between the NHI and the MAP, except that before 2007, there was no or minimal cost sharing for MAP beneficiaries. Exemptions for cost sharing were applied only to children under 18 years of age or pregnant women who have rare chronic diseases (6). However, since 2007, all MAP beneficiaries are required to pay cost sharing for outpatient services.

NHI funds mainly come from members' contributions, which amount to 80% of total revenue. In 2008, the contribution rate for formal sector employees was 5.08% of salary, split equally between the employee and employer. Contribution by the self-employed is based on their income and assets. Government subsidies through general taxation and a tobacco surcharge account for 16.5% of funding and the rest is from other sources (3).

Insurance benefits include service benefits and some cash benefits. The service benefits include inpatient, outpatient, drugs and some prevention services. The cost sharing rate is: between 10-20% for inpatient services; between 30-50% for outpatient services, with a higher cost sharing rate at higher level facilities; and about 30% for pharmacy services. After reaching universal population coverage, the NHI benefit package has been expanded gradually. Table 1 demonstrates some of the key changes in benefit package.

Table 1. Main changes in NHI benefit package since 1995

Year	Changes
1995	Duration of medical care benefits was extended from 180 days to 210 days per year. Maximum duration of benefits for people over 65 years old, with disabilities and persons with national merit was removed
1996	Duration of medical care benefits was extended from 210 days to 240 days per year. Computed tomography (CT) was covered.
1997	Duration of medical care benefits was extended from 240 days to 270 days per year.
1998	Duration of medical care benefits was extended from 270 days to 300 days per year. Prevention and rehabilitation were covered.
2000	Duration of medical care benefits was extended to 365 days per year.
2004	Co-payment ceiling was introduced.
2005	Magnetic resonance imaging was covered. Cost-sharing rate decreased from 20% to 10% for a few high cost diseases such as cancer.
2006	Children under 6 years old were exempt from inpatient cost-sharing. Surgery for transplantation (liver, kidney, lung and pancreas) was covered.
2007	Co-payment ceiling decreased from 3 million won (KRW) to KRW 2 million.
2008	Inpatient cost-sharing for children under 6 years old increased from 0% to 10%. Medical examination before childbirth was covered.

Source: NHIC & HIRA. Statistical year book, 2008

Over the past 15 years, the duration of medical benefit days have been extended and now better accommodate the elderly and those with chronic conditions. The duration of benefits is defined as the sum of days on medication with doctors' prescription, days hospitalized and days with outpatient visits. Additionally, the NHI has been very responsive in covering new diagnosis equipments. For example in 2006, there were 33.7 CT machines per million population making it the fourth highest concentration among OECD countries, behind Japan, Belgium and the United States (2).

However, not all inpatient and outpatient service costs are entitled to reimbursement. In Korea, service delivery is dominated by the private sector. Special charges can be levied in addition to the basic fees in large hospitals. More than 80% of hospital services have these special charges. The rate of special charges is between 50-100% of the basic price. The NHI only reimburses part of the basic price according to a schedule (4). Furthermore, the patient pays full price for services which are not covered by the NHI and for which there is no price regulation. According to the NHIC statistics, the NHI covered 74.0% of the basic service fees in 2006. Yet, when considering total treatment cost, only 53.6% was reimbursed by the NHI. This figure has increased slightly over the past few years from 50.3% (7).

Drug coverage by the insurance is generous (8). Almost all prescription drugs and some over-the-counter (OTC) drugs are covered by the NHI. However, Korean traditional medicines are not included. The volume of drug use in Korea is high as patients who access services expect to receive medicine. It is difficult to say whether the generous drug benefit results in a high volume of drug usage or society's

preferences lead to generous drug coverage by the NHI. However, in the past 10 years, there have been continued reforms on drug policy, mainly to change doctor's prescription behaviour and to regulate pharmacies (9-11).

Study data and method

Data source

The data used in this section are from the Household Income and Expenditure Survey (IES) from 1995 to 2007. The IES collects detailed information on household income and expenditures, including details on households' health expenditure. The data were collected every month for a one year period. Between 1995 and 2002, only urban non-single person households were sampled in the survey. Since 2003, both urban and rural households have been sampled, but single person households have only been included since 2006. In order to maintain comparability, our time series comparison is based on the same sample frame. The nationally representative sample is, therefore, only available for 2006 and 2007.

In 2004, a cost sharing ceiling was introduced, but was lowered in 2007, which would have somewhat reduced catastrophic expenditure. The data used in this analysis may not fully capture this effect as reimbursements are made at the end of the year.

Out-of-pocket payments

Out-of-pocket payments (OOP) refer to payments made at the point of receiving health services. This includes the doctor’s consultation fees, purchases of medication and hospital bills. Expenditures on health-related transportation and special nutrition are excluded. In the household survey, OOP were reported in three broad categories: services (inpatient, outpatient and dental services, etc.), appliances (spectacles, hearing aids, etc.), and drugs (prescription, non-prescription and Korean traditional drugs).

Catastrophic expenditure

Financial risk protection is measured by the percentage of households with catastrophic expenditure within a one-month period. We take the widely used measure of catastrophic expenditure, which is defined as OOP exceeding 40% of household non-subsistence spending. Subsistence spending is estimated as the average food expenditure of households whose food expenditure share was in the 45th to 55th percentile range (12).

Household economic groups

The study analyzed the structure of out-of-pocket payments as well as the trends and the distribution of financial risk protection across economic groups. Household economic groups are defined according to per capita household consumption expenditure with consideration of economies of scale for the household size.

Results

Household out-of-pocket health payments

Level of household out-of-pocket health payment

Household monthly OOP was KRW 58,422 (US$ 75.7) in 1995 and KRW 116,195 (US$ 125.0) in 2007 for the urban population (Table 2). OOP as a share of total household expenditure was 4.6% and 5.0% respectively in the same years. From 1995 to 2001, the OOP share decreased slightly. The lowest point was observed in 2001, at 4.1%. It then started to increase from 2001 and reached 5.0% in 2007.

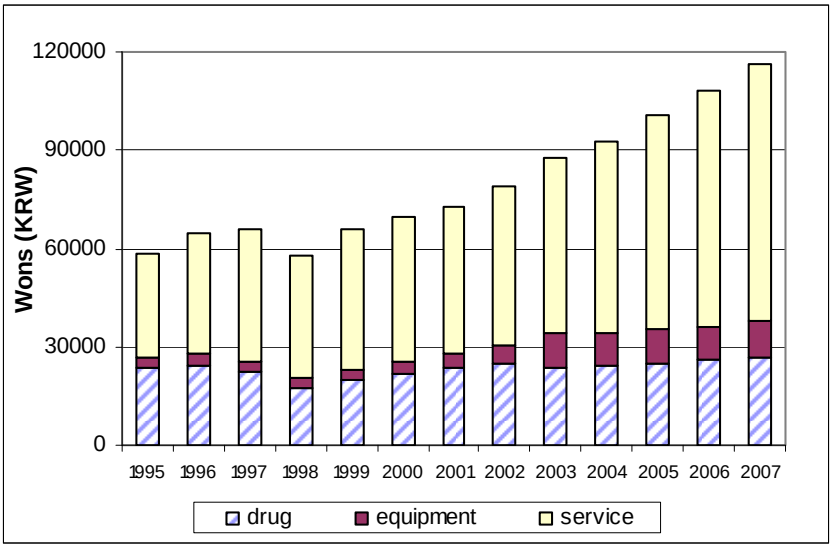
Table 2. Household out-of-pocket payments

Year	OOP (KRW) per month	OOP as a share of household expenditure
1995	58422	4.6%
1996	64617	4.6%
1997	65700	4.4%
1998	57918	4.3%
1999	66189	4.4%
2000	69350	4.2%
2001	72886	4.1%
2002	79263	4.2%
2003	87938	4.5%
2004	92602	4.5%
2005	100780	4.7%
2006	108051	4.8%
2007	116195	5.0%

Components of out-of-pocket payment

The largest component of OOP is on services and it has been increasing over time. From 1997, expenditure on services accounted for more than 60% of total OOP (Figure 1). Drug expenditures in absolute terms have been rather stable, which resulted in a decrease in their share in total OOP. But this does not mean that the consumption of drugs decreased. NHI benefits for drugs have increased as a result of the Separation Reform, which decreased the scale of OOP by covering some drugs that were previously excluded (13). In 2007, purchases of drugs made up about 23% of total household OOP.

Figure 1. Components of out-of-pocket payments from 1995-2007



Household spending on health varies significantly across income groups. In general, higher income groups spend much more on health than lower income groups in absolute terms. Expenditures on inpatient and dental services are much higher among the highest income group (Table 3). These expenditures include both co-payments for services covered by the NHI as well as the full charges for non-covered services. It should be noted that the coverage of dental services under NHI is very limited.

Table 3. Components of out-of-pocket payments by quintile in 2007 (KRW per month and as a percentage of total OOP)

Quintile	Drugs	Outpatient services	Inpatient services	Dental services	Other
1	15384 (17.8%)	12235 (14.2%)	1399 (1.6%)	1163 (1.3%)	4349 (5%)
2	18757 (15.3%)	17486 (14.3%)	3450 (2.8%)	3679 (3%)	8438 (6.9%)
3	22573 (12.8%)	22421 (12.8%)	6678 (3.8%)	7385 (4.2%)	11770 (6.7%)
4	28379 (7.6%)	29206 (7.8%)	14347 (3.9%)	16759 (4.5%)	16313 (4.4%)
5	39000 (14.6%)	50251 (18.8%)	71331 (26.7%)	74464 (27.9%)	32198 (12%)

The drug expenditure includes co-payments for reimbursable drugs and full cost for other drugs. Certain "non-prescription drugs" such as Aspirin can be reimbursed by the NHI if they are on the NHI drug list and are prescribed by a doctor. Data show that prescription, non-prescription and traditional drugs account for 36%, 25% and 39% of the total out-of-pocket drug expenditure, respectively, in 2007

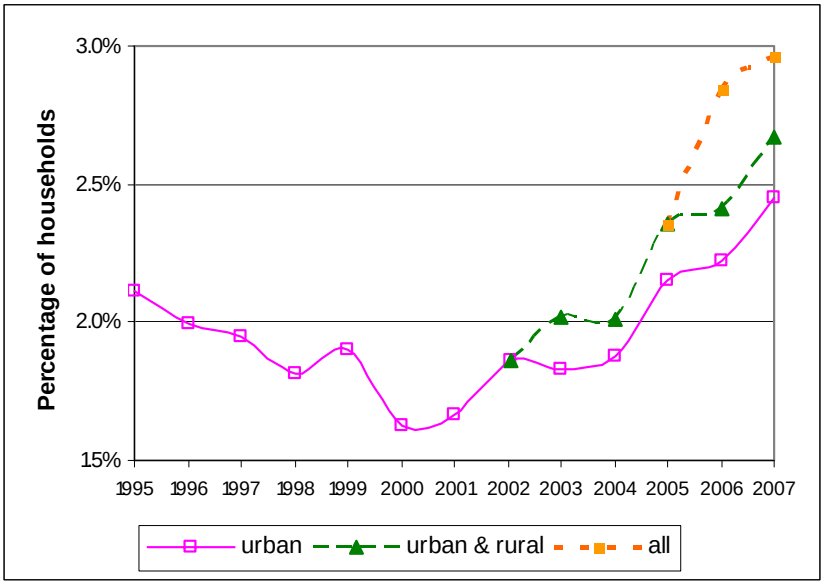
Household financial burden from out-of-pocket payment

Overall trend of catastrophic expenditure

In 1995, 2.1% of households faced catastrophic health expenditure. It then reduced to its lowest point of 1.6% in 2000. It has, however, increased continuously since then and reached 3% in 2007. This figure is much higher than most high income OECD countries, where less than 1% of households encountered catastrophic expenditure (12;14).

Figure 2 shows catastrophic health expenditure from different survey sampling frames. When the sample includes both urban and rural households, catastrophic expenditure is higher compared to when only the urban population was sampled, which was the case in the 2003 to 2007 surveys. When one-person households were included in the sample (since 2006), the figure became even higher.

Figure 2. Catastrophic health expenditure from 1995-2007



Additionally, a far higher percentage of pensioners' households experience catastrophic expenditure. Data from the wider sampling frame of 2006 and 2007, which is likely to more reflective of elderly households, shows that about 10% of pensioners' households faced catastrophic expenditure, compared to just around 2% of other households.

Distribution of catastrophic expenditure among socio-economic groups

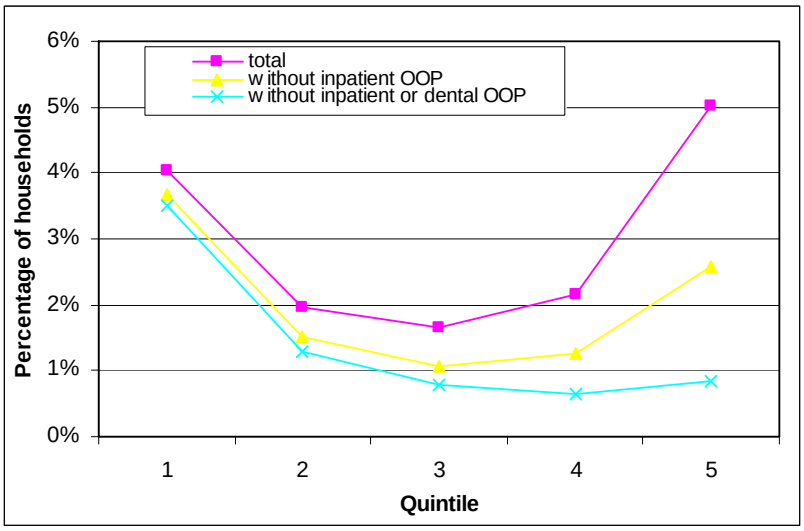
In 2007, 82% of households spend less than 10% of their capacity to pay on health; 9% spend between 10- 20%; 6% spend between 20-40% and 3% of households spend more than 40% of their capacity to pay. However, the numbers vary among different income groups.

Catastrophic expenditure by quintiles

Catastrophic expenditure occurs in all income groups. The percentage of households with catastrophic expenditure is the highest in the richest quintile, followed by the poorest quintile, whereas the 3 middle quintiles have rather similar levels (Figure 3). Catastrophic expenditure among the 5th quintile is mainly

caused by inpatient and dental services, while in the 1st quintile, drug and outpatient services are the main drivers. In addition, as quintiles are defined by household consumption expenditure, which includes out-of-pocket payments, some households are categorized in the 5th quintile due to their unusually large spending on health.

Figure 3. Catastrophic health expenditure by quintile in 2007



This raises the question whether the 1st quintile is well protected by the system or if they forgo inpatient services. There is no direct utilization data in the survey. However, given that every one has to pay some OOP for inpatient services (either through copayment or special charges) in the 2007 data, the number of households reporting spending on inpatient services can be considered as a proxy of utilization. Indeed, based on this proxy, higher income households use more inpatient services compared to lower income groups. Utilization in the 5th quintile is about 7 times higher than that of the 1st quintile. Among those who used inpatient services, one in three households faced catastrophic expenditure.

Discussion

Many countries that chose health insurance to achieve universal coverage face the challenge of expanding coverage to the informal sector. Korea successfully demonstrated that with strong political will and financial support from the government, universal population coverage can be achieved within a short period of time. Korea set an example for other Asian countries such as Philippines, Vietnam and China, which are making efforts to expand population coverage of insurance. However, population coverage is only one part of the story. Without appropriate service and cost coverage, the goal of universal coverage is still unreached. Whereas national health insurance in Korea covers a wide range of outpatient and inpatient services, diagnostic tests and drugs, the extent of coverage for different types of services varies considerably. Despite the continuous expansion of the NHI benefit package, the percentage of households with catastrophic expenditure has increased for the past several years.

This study shows that out-of-pocket expenditure for inpatient services is highly correlated with catastrophic expenditure, while drug and outpatient expenditure rarely cause financial catastrophe for households. In 2007, a third of households whose members used inpatient services incurred catastrophic expenditure. This is particularly noteworthy as the co-payment for inpatient services was

only 10% to 20% of the basic treatment cost. However, the total cost to patients is much higher as insurance does not reimburse special fees, which can be as high as 100% of the basic costs.

In reality our results suggest that inpatient services have a rather limited coverage (7). In order to alleviate households' financial burden, tackling special fees through stricter regulation and expanding the benefit package is essential. The expansion of the benefit package has to be accompanied by an increase in NHI contributions. The insurance compensation schedules for the special charges should be negotiated so that the extra funds translate into utilization increases, not simply cost increases.

Drug expenditure has been high in Korea compared to other OECD countries. Traditionally, people have expected to receive a prescription when visiting a doctor. Before the Separation Reform, many drugs which were dispensed at physicians' offices were covered by health insurance. Since the Separation Reform in 2000, which aimed to rationalize the use of medicines, many modifications have been implemented. The impact of these efforts is reflected with the gradual decrease in drug expenditure as a share of total health expenditure. However, NHI still has very generous drug coverage. It reimburses even some commonly used OTC or “non-prescription” drugs such as Aspirin as long as they are on the drug list and the patient has a doctor's prescription.

The study shows that medicines are the most frequent spending items within household health expenditure, but rarely cause catastrophic expenditure, even among the lowest income group. Generous drug coverage allows everyone to benefit from the national health insurance and therefore helps in maintaining public support for it. However, there is trade-off between smaller benefits for everyone and bigger benefits for a few. Firstly, generous drug coverage inevitably limits coverage for other services such as inpatient services given a fixed amount of total revenue. Secondly, the fact that the insurance reimburses drug expenditure as long as the drugs are prescribed by a doctor encourages patients to use more outpatient services in order to have their drug spending reimbursed.

Our results also suggest that poorer and elderly households are more disadvantaged. Indeed, catastrophic expenditure among quintile 5 is largely caused by dental services. However, among quintile 1, basic services are the main drivers. There is also a substantial difference in the use of inpatient services between richer and poorer households, which indicates insufficient use of inpatient services by low income households. One way to reduce the financial burden on low income households is to differentiate the cost-sharing rate according to ability to pay.

Similarly, pensioners' households face catastrophic expenditure much more, which suggests that they should be given more attention. With the same level of cost sharing, they are forced to spend more of their disposable income on health. Various options could protect the elderly from large financial losses due to paying for health services. These could be through differentiation or reduction of insurance cost sharing or indeed, other social welfare programs. Korea introduced long-term care (LTC) insurance in mid-2008 as a public nation-wide scheme. The LTC insurance scheme mainly covers the financial burden of social care rather than health care. This is expected to reduce financial burden of households with elderly members as well as alleviate financial constraints for the national health insurance.

Conclusions

Our results suggest that the benefit package need to be rationalized. Indeed, discussions in the country on restricting drug reimbursement (e.g. shortening the drug list, increasing cost sharing, regulating and encouraging rational prescription behaviour, etc.) and increasing the coverage of inpatient services are under way. Special charges need to be addressed as well. Furthermore, low-income and pensioners'

households require special attention. However, these changes may face both political and technical challenges. For example, cutting down pharmaceutical benefits will not be popular with the pharmaceutical industry or with patients. Rationalizing the benefit package through consensus building, together with gradual adjustments, may achieve better results.

References

1. Carrin G, James C. Key performance indicators for the implementation of social health insurance. Applied Health Economics and Health Policy 2005;4(1):15-22.

2. Organisation for Economic Co-operation and Development. OECD Health Data 2008. 2008.

3. National Health Insurance Corporation and Health Insurance Review and Assessment Service. Statistical booklet on 30-year history of Korean National Health Insurance. 2007.

4. National Health Insurance Corporation. National health insurance system of Korea. 2008.

5. Kwon S. Health care reform and the new sigle payer system in Korea: social solidarity or efficiency? International Social Security Review 2003;56(1):75-94.

6. Jeong, H. S. Health policy under economic crisis. 2009. Korean Social Security Association Spring Academic Congress.

7. Jeong HS, Shin PK. Time-series change in benefit coverage of Korean health insurance and cross-country variation in public financing share of personal health care expenditure. Korean Social Security Studies 2006;22(4):27-48.

8. Yang BM. Economic evaluation and pharmaceutical reimbursement reform in south Korea's national health insurance. Health Affairs 2008;27(1):179-87.

9. Chung WJ, Kim HJ. Interest groups' influence over drug pricing policy reform in South Korea. Yonsei Medical Journal 2005;46(3):321-30.

10. Kwon S. Economic crisis and social policy reform in Korea. International Journal of Social Welfare 2001;10(2):97-106.

11. Lee JC. Health care reform in South Korea: Success or failure? American Journal of Public Health 2003;93(1):48-51.

12. Xu K, Evans DB, Kawabata K, Zeramdini R, Klavus J, Murray CJL. Household catastrophic health expenditure: A multicountry analysis. Lancet 2003;362(9378):111-7.

13. Jeong HS. Health care reform and change in public-private mix of financing: A Korean case. Health Policy 2005;74(2):133-45.

14. Xu K, Evans DB, Carrin G, Aguilar AM, Musgrove P, Evans T. Protecting households from catastrophic health spending. Health Affairs 2007;26(4):972-83.