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Insuring Health: Adverse Selection and Micro-health Insurance in Cambodia

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Health And Economic Well-Being'

Cambodia is among the world's poorest and unhealthiest nations. Infectious diseases are widespread and the most common occupation, farming, leads to many injuries. Health shocks and associated high medical costs can cause poor families to sell productive assets or reduce consumption to the point where economic wellbeing is endangered and the family's health and the children's educational opportunities are compromised. Such strategies for coping with health issues can trap families in long-term poverty. Furthermore, in Cambodia, poor quality of care, long distances to health facilities, and prohibitive expenses mean many Cambodians forego valuable health care.

Health insurance may improve health and economic outcomes among the poor. Research from the United States and other wealthy countries suggest that health insurance usually leads to modest improvements in health. More importantly, insurance may increase a family's economic wellbeing by allowing it to preserve its assets and reduce the need for child labor to cover medical expenses.

The Sustainability of Health Insurance

Despite the vulnerability of the poor to illness and injury, health insurance in developing countries remains rare. Yet expanding voluntary health insurance is a recent popular policy prescription for the billions of poor who lack affordable access to health care. Most importantly, China has largely shifted to voluntary, government-subsidized health insurance in rural areas. Other developing nations such as Vietnam and Thailand have also rapidly expanded health insurance coverage.

However, it can be difficult to design health insurance programs that are both affordable for poor families and financially sustainable for the provider. If consumers of micro-health insurance are primarily people with high average medical costs, than adverse selection exists and the health insurance provider will have a difficult time being financially sustainable.

Our research in Cambodia examines who purchases insurance and how that self-selection varies at different premium levels. For example, are those who have a very ill household member more likely to purchase health insurance at a higher price? If adverse selection is severe, risks will not be pooled and premium levels will not be able to cover the high costs of care. We also examine several other influences such as risk aversion and distance to health facility in other studies.

Winning the Lottery

In 1998, a French NGO launched a health insurance program called SKY ("Sokapheap Krousat Yeugn," which in Khmer means "Health for Our Families")

as a response to high default rates among its microfinance borrowers due to illness. SKY's goal is to provide protection from catastrophic health expenses, while at the same time encouraging the use of public health facilities that meet minimum quality standards. SKY also hopes to increase the quality of care at public facilities by providing them with a steady income.

While SKY targets the poor, it also is trying to become financially sustainable in the long term. Thus, the insurance policy includes several terms that reduce adverse selection. For example, SKY insurance does not cover long-term care of chronic diseases and does not pay for the delivery of babies within the first few months of joining. A government policy also reduces adverse selection by paying for the very expensive drugs needed for HIV/AIDS and tuberculosis. Finally, insurance is sold at the household-level, eliminating the possibility that households would purchase insurance for only ill or frail members.

SKY encourages the use of public health facilites that meet minimum quality standards

At the time of the study households were offered insurance at a rate ranging from $0.50 per month for a single-person household to around $2.75 per month for a household with eight or more members. Households sign up for a six month cycle, paying for the first month's coverage plus two reserve months up front. A household can join SKY at any time, but coverage will not begin until the start of the next calendar month. Households offered insurance for the first time are offered slightly lower premiums to encourage take-up. With their insurance, household members are entitled to free services and prescribed drugs at public health centers and at public hospitals with a referral.

Our randomized experiment was carried out as the SKY program began a major expansion at the end of 2007. When the SKY program first rolls out into a region, SKY holds a village meeting to describe the insurance product to prospective customers. The meetings are advertised ahead of time via loudspeaker announcements in each village. Following the meeting, SKY agents visit households to sell insurance to interested families. At the end of each meeting, SKY traditionally gives out coupons for one month of free insurance.

To randomize the price of insurance, we implemented a Lucky Draw for insurance coupons. Winners of the Lucky Draw received a coupon for a deep discount off of the insurance premium: five months free out of the first six month insurance cycle, with the possibility of another three months discount if the household renews for another six months. All households have the ability to purchase SKY at any time at full price.

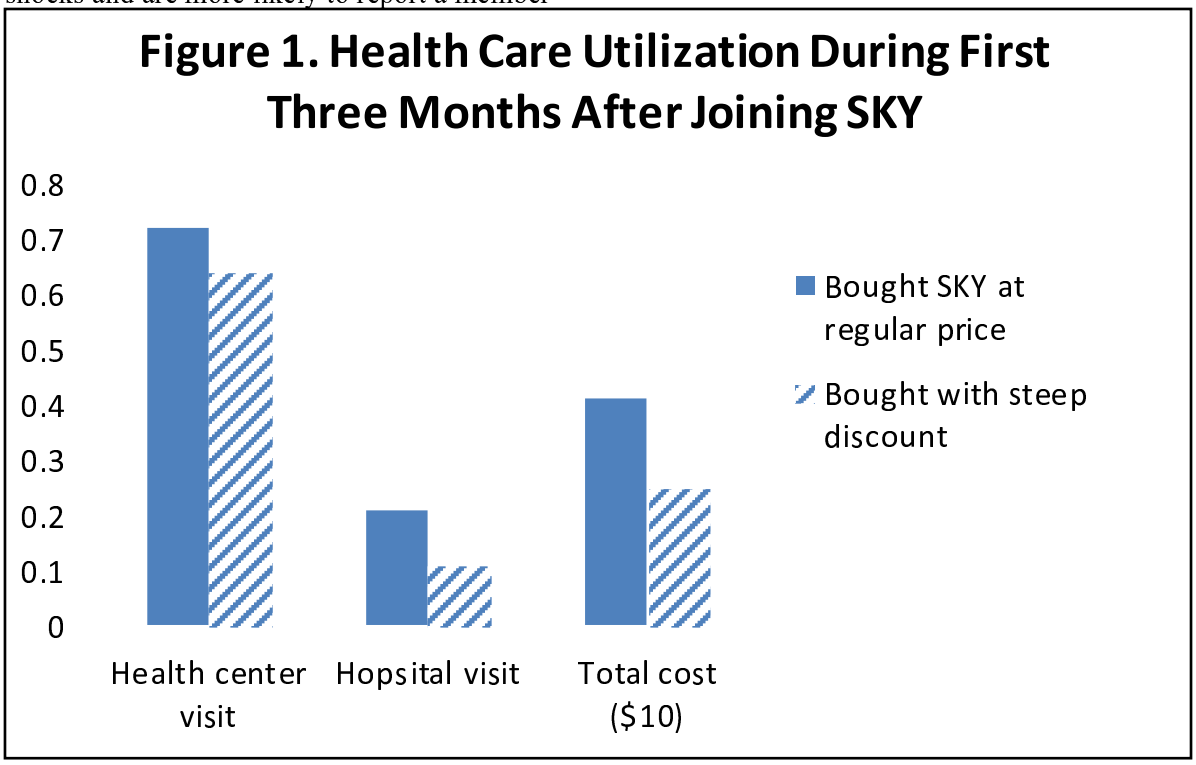
Our main data source is a survey of 5,347 households. We rely largely on the baseline survey, which took place from two to nine months after the initial SKY marketing meetings because coverage started one to two months after these meetings. For the baseline survey, we interviewed all Lucky Draw winners (the 20% of the village meeting attendees able to purchase SKY at a deeply discounted price) and an equal number of households offered the standard price. To increase our sample of buyers who paid the standard price, we also interviewed any additional households that bought insurance at the standard price.

Does Adverse Selection Exist?

There was mixed evidence of adverse selection on observable baseline characteristics such as past health care utilization and initial health levels of household members. Those who join SKY have had more past health shocks and are more likely to report a member in poor health. At the same time, although elderly people are more likely to use health care, SKY households are not more likely to have very old members.

There was little evidence that those paying the full price for insurance have more observable risk factors than those paying a deeply discounted price. That is, they had slightly higher rates of respondents reporting at least one member with poor health (84% vs. 77%), but slightly lower rates of having a serious health shock in the several month prior to the SKY meeting (10% vs. 12%). All differences we report in this brief are statistically significant at the 5% level except this gap in serious health shocks.

There was strong evidence that those who pay full price for insurance have more unobservable risk factors than those paying a deeply discounted price. Specifically, those who bought insurance at the full price have much higher health care utilization after purchase than those who paid a lower price (Figure 1). For example, 72% of households who bought at full price, but only 64% of those who purchased with a steep discount, used a health center in the first three months of membership. Hospital visits showed an even larger gap: 21% vs. 11%. This gap in utilization by insurance price remains even when controlling for a number of observable baseline characteristics.



Notes: Sample = 243 families who bougth at full price and 1262 who bought at a steep discount. Health center and hopsital visits are share of members with any visits. To keep a common scale on the chart, the value of copays covered by SKY ("cost") are scaled as a share of $10.

While some households that paid full price may have been using more health care to "get their money's worth" (a behavioral form of moral hazard), we have evidence that most of the effect is due to adverse selection on unobservable characteristics. Specifically, the effects were just as strong for hospital visits (which typically require a referral) as for health center visits.

The Cost of Adverse Selection

Our results indicate that while there is some adverse selection due to characteristics observable at the baseline (e.g., past health care utilization and baseline health levels), most adverse selection was not predict-

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ed by baseline observable characteristics. Thus, how important is this self-selection to SKY's bottom line?

SKY tries to set its insurance premium to cover the list price of co-pays for services that SKY members use, what we will call "utilization costs". In the first six months after joining, the average utilization costs among all buyers who paid full price for SKY was $6.94. Using calculations based on average household size and premium levels, average revenue per household was $9.93 during that period, $2.99 above utilization costs per household. Deep discounts reduce self-selection of those with high utilization, lowering average utilization costs from $6.94 to $5.29 per person in the first six months of SKY. However, the steep price cut reduces revenue more than it reduces utilization, so the steep discount leaves revenue $3.64 below utilization costs, a loss that would be larger if we included administrative and sales costs.

Policy Recommendations

More than half of health expenditures in poor countries are out-of-pocket payments by individual households. When illness or injury leads to high medical costs and often low incomes, poor families can end up foregoing care or lowering their long-term standard of living. If health insurance is to address the problems of the global poor we must understand under what conditions insurance can be financially sustainable and can improve purchasers' lives.

Protecting those in need is a major objective of donors and of policy-makers. Unfortunately, better protection against adverse selection, such as restrictions on coverage of pre-existing conditions, worsens insurance's ability to protect those in need. Insurance policies that cover entire groups such as workplaces, microfinance groups, or villages may be able to mitigate adverse selection. At the same time, as the United States' experience demonstrates, relying on group coverage will never lead to complete coverage.

If households buying insurance are disproportionately those with the highest health care needs, subsidizing voluntary health insurance may be a cost-efficient way to increase access to health care. Ongoing donor or government support is appropriate if health insurance both increases health and has other benefits such as reducing persistent poverty due to health-related debt. At the same time, without quality health care services, increases in utilization may make little difference in health. Thus, donors must weigh the value of increasing quality of care versus increasing access to care.

Further Reading

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