Applying Behavioral Insights to Design Low-Income Insurance Policies in Pakistan

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Sector(s): Finance, Health, Social Protection

Location: Pakistan

Sample: 502 villages with 6,461 households

Target group: Families and households Informal workers

Outcome of interest: Savings/deposits

Intervention type: Insurance

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Partner organization(s): National Rural Support Program of Pakistan

Individuals who are more likely to need health insurance (high-risk) may be more likely to purchase policies, which in turn may lead to increased costs and therefore potentially reduce demand. This evaluation tested whether offering insurance policies that required enrollment at different group levels mitigated this risk. When allowed to purchase insurance at the individual level, those most likely to require health care were disproportionately more likely to purchase insurance. However, offering policies that required larger groups (such as households) to enroll reduced this effect.

Policy issue

Low-income households frequently experience financial distress, with health shocks often being the most unexpected. Given the gaps in public health insurance in many low- and middle-income countries, there is large potential for private insurance solutions to protect households from poverty and improve their long-term productivity and health. To ensure low-cost insurance programs are sustainable and affordable, providers must consider constraints such as administrative capacity and the characteristics of buyers, such as literacy, ability to pay, and willingness to pay.

A challenge faced by private health insurance providers is that those who choose to purchase policies may be those that are most likely to require health insurance (who are considered “high-risk” clients by insurance providers). If a program has disproportionately high-risk customers, costs for insurance providers will increase, forcing the provider to raise premiums. Increased premiums in turn may drive out individuals who are less likely to require healthcare and health insurance (known as “low-risk” customers), as they may deem the price too high to be worth the investment. Known as adverse selection, this phenomenon leads to a cycle of increasing costs and an unsustainable product. There is little rigorous evidence that analyzes the behavior of low-income individuals who purchase insurance, leading to ambiguity in how such schemes can be designed and its potential costs to the provider.

Context of the evaluation

This evaluation was conducted in Pakistan, where there is no universal health insurance system. Less than one percent of Pakistan's GDP is spent on health, and public health expenditure accounts only for 35 percent of total health expenditure. Existing schemes mostly target public and formal sector employees, leaving those in the informal sector vulnerable to considerable financial risk and shocks. Free public health facilities are perceived as low-quality, with many expensive treatments and medications not covered. 87 percent of private health expenditure is paid out-of-pocket by citizens.

The National Rural Support Program of Pakistan (NRSP) provides micro-credit products bundled with mandatory hospitalization and disability insurance. Prior to this study, NRSP was the only microinsurance provider in the country offering hospitalization insurance on a significant scale, reaching over 2.5 million households. Micro-credit loans are complemented with insurance with three main functions – in-patient hospitalization coverage up to PKR 15,000 (about US$150 at the time of the study), accidental death and disability coverage up to PKR 15,000, and a loan write-off and a lump payout of PKR 5,000 (about US$50) in case of death of the main breadwinner.

The NRSP works mainly with community organizations in rural areas which consist of 12–15 households.



family of farmers in Pakistan

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Details of the intervention

This evaluation tested three different insurance policies across 6,461 households in 502 villages in Sargodha district in Punjab, Pakistan. It aimed to identify the existence of adverse selection among low-income clients and evaluates simple measures to

mitigate this risk.

Researchers evaluated three different hospitalization, death, and disability insurance policies that varied in its coverage of household dependents. In each intervention group, participants were introduced to the concept of insurance and were given a detailed explanation of the benefits of the mandatory insurance policy that NRSP provides. Following this, each group was introduced to the policy that had been randomly assigned to their community. Each policy costs PKR 100, or US$1, per person.

1. *Individual Policy*: This policy allows clients to enroll any number and combination of dependents. Because this policy allows clients to choose which household members to enroll, it helps to determine the existence, and extent of adverse selection in the community.
2. *Household Policy*: In this policy, the client is required to insure all dependents of the household. This policy helps determine if a bundled insurance policy mitigates the risk of adverse selection, by limiting the selection of high-risk individuals within a household.
3. *Group Policy*: The Group policy requires at least half of the credit group or community organization to fully insure all members of the household. This arm aims to further determine the effect of a bundled insurance policy on adverse selection, impeding specific high-risk households.

Clients were selected from groups whose loan applications with NRSP had been approved before the start of this study. Each client was also privately offered a random discount of PKR 10, 20, or 30, applicable to the per-person premium for all eligible members of the household. These interventions were designed so as to ascertain the extent of adverse selection and determine program sustainability.

The data for this study was compiled from household and individual level data from three sources, namely, client-level information from NRSP's management information systems, computer-assisted personal interviews, and bimonthly phone surveys. Households, on average, consisted of 5.4 members and had an average monthly income of PKR 22,700 (about US$220 at the time of the study).

Results and policy lessons

This study found evidence of adverse selection in low-income insurance buyers. This risk can be mitigated by bundling policies at the household or group level.

Enrollment in health insurance policies: At each subsidy level, fewer households bought insurance if enrollment of all dependents was required. However, enrollment rates increased as the subsidy amount increased. When offered the smallest subsidy of PKR 10 per person, 42 percent of those offered the Individual policy enrolled—compared to 26 percent of those offered the Household Policy and 28 percent of those offered the Group policy. When offered the highest subsidy of PKR 30 per person, 77 percent of those offered the individual policy enrolled—compared to 74 percent (Household) and 72 percent (Group).

Fewer households bought insurance if the enrollment of all dependents is required. On the other hand, a higher share of dependents were insured among households that did enroll when a bundled policy was required. When offered the highest subsidy of PKR 30 per person, 71 percent of clients offered the Household policy and 68 percent of clients offered the Group enrolled—compared to 39 percent of clients who enrolled when offered the Individual policy. This demonstrates that some households that buy (partial) insurance when offered the Individual policies would not do so when they were required to insure the whole household.

In the Individual Policy, household size did not play a role in whether to engage in some form of insurance, but larger households insured a smaller fraction of their members. Smaller households were more likely to purchase Household and Group Policies, suggesting that clients struggle to insure many dependents.

Adverse selection: To determine the presence of adverse selection, this study compared the predicted health costs between those who bought insurance policies and those who did not. Adverse selection is said to exist when the average health costs of those who purchased insurance is higher than those who refrained, suggesting that high-risk individuals were more likely to buy into a policy.

Researchers developed an expected cost index based on an individual's characteristics to predict their likelihood of requiring health care. Clients with higher cost indices would be considered higher-risk by the insurance provider.

The average cost index for those who took up the Individual Policy was almost 50 percent higher than that of those who were not insured, suggesting that those more likely to use health services were more likely to enroll in insurance. The average cost index of those who bought the Household or Group policies were 10 to 15 percent higher than those who were uninsured.

Higher risk individuals were more likely to become insured, especially if given a choice of individual insurance policies. The requirement to enroll all household members appeared to mitigate such cherry-picking and therefore helped to alleviate adverse selection. The results of this study suggest that it may be more sustainable and less risky for low-income insurance operators to offer bundled policies.