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Microloans, Insecticide-Treated Bednets and Malaria: Evidence from a Randomized Controlled Trial in Orissa

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Background

The development field has witnessed a spirited debate over the optimal pricing of health goods and services. Given that price remains significant barriers to adoption, policymakers argue, health goods should be distributed for free in order to achieve high takeup and usage. Critics of free distribution maintain that charging for a good is more likely to increase its usage because beneficiaries are more likely to value a good that they have already paid for (a 'sunk cost effect'). According to experts in this camp, there are at least two other important reasons why agencies should charge for health goods: people are more likely to use health products with a price (because they assume these products are of higher quality) and charging for health good may help attract people who are more likely to use them.

Insecticide treated bednets (ITNs), designed to help protect against malaria, have been at the center of this debate on the pricing of health goods, with some experts advocating for free distribution and others championing price-sharing between distributing agencies and the beneficiary. A landmark 2008 study[1] by Jessica Cohen and Pascaline Dupas in Kenya found that free ITN distribution had no negative impact on takeup or usage and proved more cost-effective than cost-sharing. The researchers also found that charging for nets significantly decreased demand from poor households. These findings strengthened claims that free distribution is a sensible policy for organizations hoping to reduce malaria by promoting ITN usage.

However, while distributing insecticide treated nets for free may be ideal from a cost/benefit point out of the view, the high costs of giving away nets may prevent some organizations or governments from adopting such a policy. Thus, it is important for policymakers to consider alternative distribution channels, including microcredit. Offering nets on credit allows poor families with lower incomes to pay for a beneficial product over time rather than in one lump sum, a repayment schedule that may better match their cash flows.

The present study[2], conducted in a malaria endemic part of Orissa, gauged the impact of two different distribution schemes on the adoption and usage of insecticide treated nets: free distribution and offering nets with microcredit loans. The study is the first to evaluate the impact of offering beneficiaries health-protecting goods with the ability to pay for them using microloans. In addition to analyzing the relationship between pricing and takeup/usage, the study also examines the impact of ITN distribution on health outcomes. Finally, CMF researchers and collaborators sought to understand whether offering individuals differently structured contracts would result in divergent retreatment decisions.

1 Cohen, Jessica and Dupas, Pascaline, Free Distribution or Cost-Sharing? Evidence from a Randomized Malaria Prevention Experiment (December 2007). Brookings Global Economy and Development Working Paper No. 11. Available at SSRN: http://ssrn.com/abstract=1080301

2 Working Paper available here: http://ifmr.ac.in/cmf/publications/wp/2011/Bednets.pdf

Findings

Offering ITNs on credit helped increase the usage and uptake of insecticide nets. In MF villages, nearly 52% of households purchased an ITN, a surprisingly large number given that the nets were offered at full price. This high purchase rate translated into an increase in bednet ownership for microcredit households.

In Free villages, nearly 47% of households had used a net the previous night compared to a 16% usage rate for households that had purchased nets on credit. Only about 2 percent of control households had used an ITN the previous night. In addition, those who received nets for free used them more than those who purchased their nets on a microloan contract, conditional on ownership.

Researchers found a difference between the retreatment rates for people who received nets for free, people who chose the commitment contract and people who were offered the non-commitment contract. The free group had the highest retreatment rates while the group that purchased retreatment upfront also chose to retreat their nets in high numbers. The group was offered retreatments for cash had the lowest retreatment rates.

These findings suggest that contracts that force clients to commit to future retreatments could be more successful at ensuring optimal use (retreatment) than contracts that do not include a commitment component. However, the researchers highlight that the contract type was chosen by households, so that in principle the differences in retreatment rates may be partly explained by differences between households that chose one contract type versus those that chose the other.

The study found almost no difference in malaria prevalence and other health indicators between individuals in the free distribution villages, microcredit villages and those in the control villages, suggesting that the program did not have the intended impact of reducing the incidence of malaria. Researchers hypothesize that the lack of benefits of the program on malaria indices is attributable to the fact that the program did not provide enough coverage to reduce substantially the number of malaria-transmitting mosquitoes. Also, the program did not include a heavy monitoring component, a critical element of past ITN interventions that have had a noticeable impact on health.

Policy Implications

Distributing ITNs through microloan contracts increased their uptake and usage relative to control households but fell short of the high takeup and usage achieved with free distribution. The commitment microloan contract with the cost of two retreatments built in was more successful at achieving high retreatment rates relative to the contract without a treatment component. Neither treatment (offering loans on credit and distributing ITNs for free) successfully reduced the incidence of malaria, most likely because of relatively low household coverage.

The study shows that microloans may be successful at increasing the takeup and usage of health products but whether or not these increases translate into improved health depends critically on the way in which the health technology operates. Since ITNs also provide benefits by generating positive community effects, it is critical that they are distributed to maximize coverage and usage.

Offering health products through existing microcredit channels may be a suitable way of boosting usage and takeup but may not be ideal for products which operate as ITNs do because these products may require much higher adoption and regular usage rates to guarantee sizeable benefits. The high purchase rate achieved through microfinance loans implies that poor households may be willing to pay full price for a health good that they value, if they have the option to repay over time. The findings from the contract variation part of the study suggest that organizations offering products which require retreatment or future purchases should consider building in the costs of future treatments upfront.