The Effect of Information and Subsidies on Chlorine Usage in Zambia

Researchers:

Nava Ashraf

Kelsey Jack

Emir Kamenica

Sector(s): Health

Location: Zambia

Target group: Rural population Families and households

Outcome of interest: Take-up of program/social service/healthy behavior

Intervention type: Information Subsidies Water, sanitation, and hygiene

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Research Papers: Information and subsidies: Complements or substitutes?

Partner organization(s): Society for Family Health (SFH)

Informational campaigns and price subsidies are common ways to increase the use of health products in developing countries, but little is known about the effect of combining these tools. In Zambia, researchers investigated whether households' demand for chlorine at varying subsidy levels was dependent on their knowledge of the product. They found that providing additional information about chlorine significantly increased the impact of price subsidies on demand for the product. However, in the absence of a subsidy, information provision had no significant effect on take-up.

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Informational campaigns and price subsidies are both common policy tools to increase the use of specific health products and other socially beneficial technologies in developing countries. But what is the effect of combining these two tools? Does providing information about a product increase the impact of price subsidies on the purchase of a product, and thereby increase the cost-effectiveness of the intervention as a whole?

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Many households in Zambia obtain their water from sources that are not properly chlorinated and carry risks of waterborne illnesses, which are especially dangerous to young children. Consequently, water purifiers have become a major health product marketed in Zambia. Society for Family Health (SFH) is a social marketing firm that distributes Clorin, the commonly used water purification system in Zambia, through door-to-door marketing. SFH is a nonprofit organization, which aims to set prices in order to maximize take-up and use rather than profits. Door-to-door marketing is very common in Lusaka, particularly in the low- to middle-income compounds where the study was implemented.



Two children collect chlorine-treated water in Zambia.

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This evaluation attempts to estimate the causal impact of information on the effectiveness of price subsidies using door-to-door marketing. During August and September of 2007, a team of marketers visited 487 households in low- to middle- income compounds in Lusaka. Lack of street addresses and detailed maps made it infeasible to randomly choose participating households before arriving, so marketers were instructed to visit every fifth house along a street. If no one was home in the target house, they visited the house to the right, and if that also failed, then the house to the left, before counting another 5 houses along the street.

All subjects were offered a novel, unfamiliar target product along with Clorin, which was sold at its regular market price of 800 Zambian Kwacha (US$0.20). The price of the target product was varied from zero (full subsidy) to 1200 Kwacha (no subsidy). The two products - Clorin and the target product - were shown to the respondent inside a plastic display case. All subjects were told that the target product was sold in other countries but was unavailable for purchase in Zambia except for a short period of time for randomly selected households. For half of the households, "the informed treatment group," the marketer opened the display case and removed both bottles for the respondent to inspect. In addition, the informed subjects were given detailed information about the similarity between the target product and Clorin, including the fact that the two products have the same active ingredient and same treatment instructions. Marketing scripts were pre-printed to reflect the 26 marketing conditions: informed vs. uninformed crossed with 13 different subsidy levels ranging from zero (full price of 1200 Kwacha) to full subsidy in 100 Kwacha increments. The scripts were provided to marketers in random order and they were instructed to use them in that order.

After hearing the information about the products, subjects were asked whether they would like to purchase either a bottle of Clorin or a bottle of the target product. After subjects completed their purchase decisions, marketers asked a brief set of survey questions including one on perceptions of the products' qualities.

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By itself, the information intervention had no significant impact on demand. Providing information increased the percentage of households that purchased the target product from 32 to 37 percent; however, the difference was not statistically significant.

The price subsidy, however, substantially increased the demand for the target product. Each additional 100 Kwacha increased the probability of an individual purchasing the target product by 4.4 percentage points.

When households were given both a subsidy and information on the product, the information intervention significantly increased the impact of the price subsidy on take up. Among uninformed households, the probability of purchase increased by 3.4 percentage points for each additional 100 Kwacha in subsidies. In contrast, among informed households, each additional 100 Kwacha in subsidies increased purchases by 5.4 percentage points. In other words, providing consumers with information increased the effectiveness of price subsidies by 60 percent. This suggests that programs aimed at increasing the demand for products or services can be improved by considering how complementary interventions interact to influence demand.

Ashraf, Nava, Kelsey Jack, and Emir Kamenica. 2013. "Information and Subsidies: Complements or Substitutes?" Journal of Economic Behavior & Organization 88(2013): 133-139.