

## The Price is Wrong

Mary Ann Bates, Rachel Glennerster, Kamilla Gumedde and Esther Duflo

---

**Publisher**

Institut Veolia Environnement

**Electronic version**URL: <http://factsreports.revues.org/1554>

ISSN: 1867-8521

**Electronic reference**

Mary Ann Bates, Rachel Glennerster, Kamilla Gumedde and Esther Duflo, « The Price is Wrong », *Field Actions Science Reports* [Online], Special Issue 4 | 2012, Online since 12 June 2012, connection on 30 September 2016. URL : <http://factsreports.revues.org/1554>

---

The text is a facsimile of the print edition.

Creative Commons Attribution 3.0 License

## A- The Price is Wrong

Mary Ann Bates, Rachel Glennerster, Kamilla Gumedde, Esther Duflo

(J-PAL)

**Abstract.** Charging small fees dramatically reduces access to important products for the poor. Relative to free distribution, charging even very small user fees substantially reduces adoption. There is no evidence that the act of paying for a product makes a recipient more likely to use it. In general, cost-sharing does not appear to concentrate adoption on those who need products most. Receiving a product for free can even increase willingness to pay for it later. There may be other reasons to charge.

### 1 Charging small fees dramatically reduces access to important products for the poor.

Medical research has identified many cheap and simple life-saving and life-improving interventions that combat infectious and communicable disease, but even low-cost interventions are often prohibitively expensive for poor families in the developing world. Where families are unable to afford the full cost, governments and NGOs often provide health products either for free, or at highly subsidized prices under “user fee” or cost-sharing programs. In recent years, there has been substantial debate about whether to charge user fees or to distribute basic products for free.

User fees and cost-sharing have been advocated for many years to promote sustainability of health services, to help ensure that goods and services are not wasted, and to provide a source of flexible revenue to those in frontline services to replenish supplies and pay for clinic repairs. More recently, social entrepreneurs have argued that small fees can help fund marketing networks that bring socially important products to the poor in a sustainable way and that people are more likely to use products they pay for. Those arguing against charging for basic services point to the massive increases in the take-up of public services that have accompanied the abolition of user fees for schooling and healthcare in many countries.

What does the evidence say? How big a barrier to access are user fees in education and health? Does charging for health and education products encourage people to use them? Do fees screen out those who do not intend to use the product and target it to those who need it the most? Or does charging simply screen out the poor? Ten randomized evaluations tested how take-up and use of education and health products for non-acute care respond to price. Evidence from these studies suggests the following:

### 2 Evaluations

**This bulletin reviews ten evaluations from four countries that inform the often rancorous policy debate about**

**whether to charge user fees or distribute basic products and services for free.** Each of the studies is a rigorous impact evaluation, designed to test how changes in price affect the way health and education products are accepted and used among poor households. In these studies, individuals were randomly assigned either to receive a product for free or to pay one of several price levels for a product like a long-lasting insecticidal bednet or water disinfectant. The studies then measured how individuals responded to the different price levels through their purchasing decisions and whether they decided to use the product in their homes.

Together, these ten studies provide relevant, rigorous evidence on how free distribution and cost sharing can affect how many people get a product, who gets a product, and how that product is ultimately used.

Table 1 summarizes these evaluations, numbered 1 through 10 in the text and figures in this bulletin. Kremer and Miguel<sup>(1)</sup> studied a program by International Child Support Africa (ICS) that offered deworming medicine, free or for a small fee, in Kenyan schools. Cohen and Dupas<sup>(2)</sup> evaluated giving long-lasting insecticidal bednets at random prices to pregnant women in prenatal public health clinics in rural Kenya. In a separate Kenyan study, but this time with the general population, Dupas<sup>(3)</sup> randomly assigned households to receive a voucher for a free or discounted (at different prices) long-lasting insecticidal bednet, which they could redeem within three months. In a follow-up study, Dupas<sup>(4)</sup> examined the long-term impact of free distribution by going back to those households that had been offered vouchers for free or discounted bednets to see which households would be willing to purchase a subsidized bednet one year later. In two western Ugandan villages, Hoffmann, Barrett, and Just<sup>(5)</sup> gave participants either free long-lasting insecticidal bednets or enough money to buy them. Ashraf, Berry, and Shapiro<sup>(6)</sup> analyzed a program by the Society for Family Health that sold water disinfectant at varying prices door-to-door in semi-urban Zambia. Another water disinfectant project in Kenya was studied by Kremer, Miguel, Mullainathan, Null, and Zwane<sup>(7)</sup> Spears<sup>(8)</sup> sold discounted handwashing soap (which can help

**Table 1.** Featured evaluations.

Product	Researchers	Location	Prices tested	Approximate market price
1. Deworming medicine	Kremer, Miguel	Kenya	free, \$0.30	\$0.50-1.50
2. Long-lasting insecticidal bednets (at prenatal clinics)	Cohen, Dupas	Kenya	free, \$0.15 to \$0.60	\$6.00
3. Long-lasting insecticidal bednets (vouchers given to households)	Dupas	Kenya	free up to \$4.60	\$7.63
4. Long-lasting insecticidal bednets (follow-up to study #3)	Dupas	Kenya	\$2.30	\$7.63
5. Long-lasting insecticidal bednets (received cash or nets)	Hoffman, Barret, Just	Uganda	free up to \$7.63	\$7.63
6. Water disinfectants	Ashraf, Berry, Shapiro	Zambia	free, \$0.09 to \$0.25*	\$0.25
7. Water disinfectants	Kremer, Miguel, Null, Zwane	Kenya	free, \$0.15 and \$0.30	\$0.30
8. Handwashing soap	Spcars	India	\$0.06 and \$0.30	\$0.52
9. School uniforms, primary school children	Evans, Kremer, Ngatia	Kenya	free, \$5.82	\$5.82
10. School uniforms, 14 years old students	Duflo, Dupas, Kremer, Sinei	Kenya	free, \$6.00	\$6.00

\* These prices include prices initially offered to customers and prices offered after a second round of discounts.

prevent diarrhea) in rural Gujarat, India. Two studies looked at pricing and education. A program by ICS in Kenya, evaluated by Evans, Kremer, and Ngatia,<sup>(9)</sup> distributed free school uniforms to primary school children. Duflo, Dupas, Kremer, and Sinei<sup>(10)</sup> evaluated a program providing free school uniforms to 14-year-old children.

### 3 Results

#### 3.1 Result 1: Small fees cause big reductions in take-up

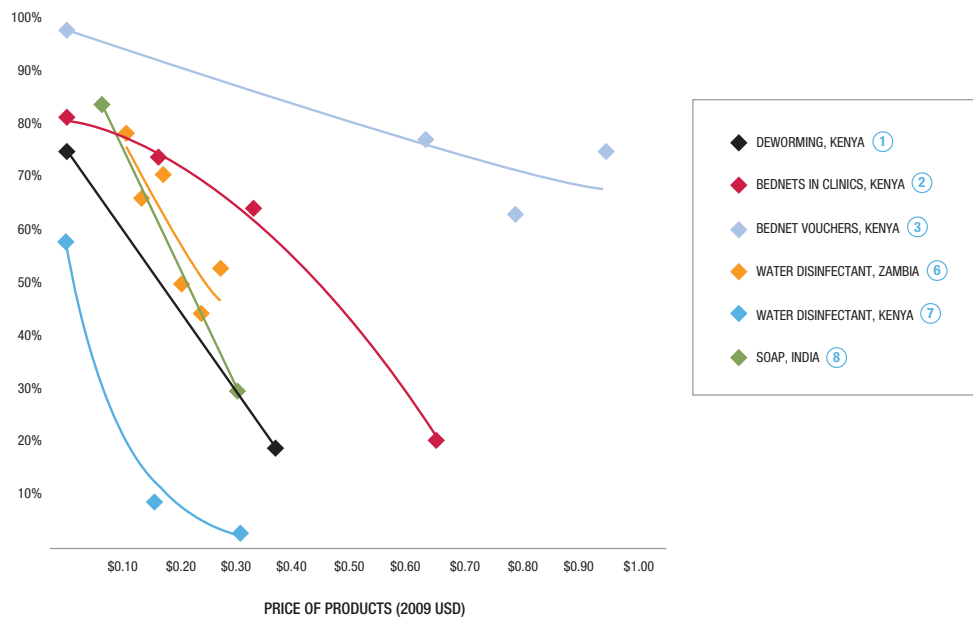
**A common policy response to the competing aims of cost-sharing and free distribution is to make products almost, but not quite, free.** But charging even very small prices sharply limits the poor's access to investments in education and health, without generating much revenue. Multiple evaluations tested how the take-up of a product changes with price. In the six studies highlighted in Figure 1, a wide variety of price and subsidy levels were tested.

**Together, these studies offer a consistent result: Even very small increases in price led to large drops in the number of people who chose to buy health products.** A deworming program in Kenya<sup>(1)</sup> offered free deworming treatment to students in some schools and, in an effort to make the program more financially sustainable, for a small

price that averaged \$0.30 in other schools. The introduction of a small fee reduced deworming treatment from 75 percent in schools with free distribution to only 19 percent in schools with cost-sharing.

Sales of water disinfectant (dilute chlorine) in Zambia<sup>(6)</sup> show a similar decline. Take-up fell by over 30 percentage points when prices increased from \$0.09 to \$0.25. In Kenya,<sup>(7)</sup> chlorine water disinfectant was offered for free and at a small price, and household water was tested for chlorine to see which households used the product. Compared to free distribution, the percentage of households using chlorine in their water fell by 52 percentage points when households had to purchase the disinfectant. However, there was little difference in take-up between offering coupons for half-price chlorine (\$0.15) and charging full price (\$0.30). In Kenya,<sup>(2)</sup> bednet sales at prenatal clinics dropped by 60 percentage points when the price was increased from zero to \$0.60—a price still \$0.15 below the discounted price that social marketing programs typically charge pregnant women in Kenya.

**The drop-off in demand with small prices does not appear to be as influenced by the market value of the product or subsidy rate as might be expected.** A bednet costs \$6, so a price of \$0.60 represents a 90 percent subsidy rate. The prices charged for water disinfectant in Kenya, by contrast, ranged from a 50 percent subsidy to no subsidy at all. Yet the drop in demand for bednets is about as steep as



**Figure 1.** Demand for Preventive Healthcare Products Based on Price

the drop in demand for water disinfectant (Figure 1), suggesting that demand does not appear to be sensitive to the exact subsidy level.

**Two evaluations in Kenya tested how take-up changes with price in the context of education.** In Kenya, primary school fees have been eliminated, and a \$6 uniform presents one of the main remaining costs of attending school. In both evaluations, students randomly selected to receive a free uniform were more likely to attend school: In one evaluation, primary school students had higher school attendance (by 6.4 percentage points),<sup>(9)</sup> and in another, 14-year-old girls were 2.5 percentage points less likely to have dropped out.<sup>(10)</sup>

At face value, the drop in take-up between free provision and cost-sharing appears to be much smaller for education than for the health products outlined in Figure 1. However, the cost of a uniform represents only a small fraction of the cost of schooling, considering that the Kenyan government has already invested significant funds to operate and staff schools. Still, for the sake of a \$6 uniform, 2.5 to 6.4 percent of children were not attending school.

### 3.2 Result 2: Fees do not substantially promote use

For some products, no effort is required by an individual to make the product effective. When a child lines up to be dewormed, the teacher puts a pill in her mouth and watches her swallow it. When a child is immunized, the healthcare provider administers the injections. For these products, where there is no step between take-up and use, there is no potential for user fees to increase use.

Other products require repeated, active use by recipients to be effective. A bednet is no help in preventing malaria if it is still in its package and not hung up. Chlorine does not

### Spillover effects may justify free distribution

Many investments in health offer benefits that reach beyond individual users. If a child sleeps under an insecticide-treated bednet, she helps reduce the prevalence of malaria-infected mosquitoes for the whole community. If she receives an immunization, she helps prevent the spread of infectious disease. When some children are treated for parasitic worms, even untreated children in the same school and in nearby schools benefit—from lower worm load and improved attendance at school—because deworming helps break the cycle of transmission (Miguel and Kremer 2004). In other words, these health products have positive spillovers.

In these cases where individual use of a product creates positive spillovers, many economists and policymakers have agreed that products should be highly subsidized or even given away. These subsidies may be needed to reach a level of use that is optimal for the whole community and to compensate individuals for the benefits they are generating for others in the community. Without this, individuals may be unwilling to pay for the benefits they create for others.

**Lesson: Goods and services with sufficiently high positive spillovers should be a priority for free distribution.**

prevent diarrhea if it is not regularly added to a family's drinking water. It is a waste of resources to hand out products for free if they will not be used correctly.

Many governments and NGOs around the world charge user fees in an attempt to prevent resources from being

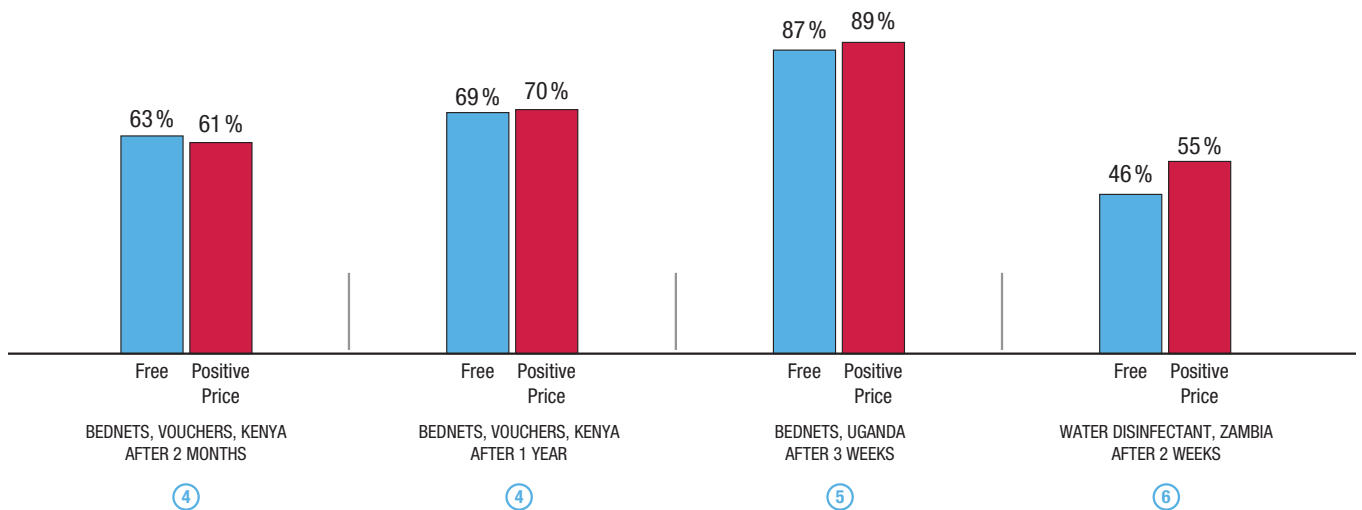


Figure 2.

**Does free distribution to the poor lead to reselling?**

A major concern for scaling up free delivery programs is that those who do not intend to use a product might nevertheless accept the free gift and then sell it to others, undermining the aim of getting the product to poor households who would benefit from it. In the studies summarized here, the recipients of free bednets were surprisingly unwilling to sell them.

Hoffmann *et al.*'s bednet study in Uganda<sup>(5)</sup> revealed a strong, surprising effect. On average, participants were willing to spend only \$2.34 of their own cash on a long-lasting insecticidal bednet, but those who received bednets for free were generally unwilling to sell them. Among those who received up to three free bednets, 73 percent were unwilling to sell even one bednet for \$7.63, which was the product cost of the bednet and the maximum resale price allowed in the study. Dupas's study<sup>(3)</sup> also finds that those who receive bednets for free tend to keep them: 12 months after households received a free bednet, 95 percent still had the net in their house.

A bigger concern is that health workers tasked with giving free health products to a particular target group (pregnant women, children, or the poor) might sell the products to others. Ongoing research is evaluating the extent of this problem and alternative ways to address it.

wasted, believing that charging encourages use. But does it work? The balance of evidence is that it does not.

Figure 2 summarizes the overall effect of price on use. In all of these studies, visits were made to recipients' houses to

see if products were in fact being used. For example, surveyors tested for the presence of chlorine in recipients' water in Zambia,<sup>(6)</sup> and visited participants' homes to observe whether the program nets were indeed hung above beds in Kenya<sup>(2,4)</sup> and in Uganda.<sup>(5)</sup> Because bednets used at night may have been taken down during the day when surveyors visited and because chlorine residuals in water decline quickly, these figures are lower bounds of usage, and self-reported usage is higher.

In Uganda,<sup>(5)</sup> researchers found no difference in usage between those who received free long-lasting insecticidal bednets and those who received cash to buy bednets. In Kenya, usage was no different after two months and after one year between people who received vouchers for a free bednet and those who received vouchers to purchase a subsidized bednet.

Two studies further disentangle the potential effects of price on usage. When patients, students, or consumers have to take action to get the benefits of a product, charging has been thought to promote use in two ways: First, individuals who value a product highly may be both more likely to pay for a product and more likely to use it once they have it. Thus, a user fee may help to prevent waste by screening out those who are not likely to use the product (i.e. a screening effect). Second, many NGOs and agencies argue that the mere act of paying for something encourages people to use it more than if they had received the same product for free (i.e. a psychological commitment effect, or the "sunk cost" effect).

One bednet evaluation<sup>(2)</sup> and one water disinfectant evaluation<sup>(6)</sup> tried to distinguish these two effects. To test the **screening effect**, researchers randomly selected some individuals in the study to be offered products at different prices: Some were offered a product for free, and some were offered the same product at a subsidized price. If a screening effect promotes use by selecting out those who are unlikely to use a product, one would expect those who chose to pay for the

product to use it more than those who accepted the product for free.

To test the **psychological commitment effect**, researchers added a second level of price randomization. Among individuals who chose to buy a product at a certain price (e.g. they put cash on the table to buy a bednet), a randomly selected subset was then offered the product at an additional discount or for free. If a psychological commitment effect causes people to rationalize their purchases by using the product, one would expect those who purchased the product at the original price to use it more than those who received the additional discount.

These two studies offer little evidence that user fees promote use through either the screening effect or the psychological commitment effect. In Kenya,<sup>(2)</sup> there was neither a screening effect nor a psychological effect of paying for bednets. Those who received a net for free were just as likely to use it as those who paid for it.

In Zambia,<sup>(6)</sup> researchers did not observe a psychological commitment effect of paying for water disinfectant: Those who were willing to pay, but were then selected to receive chlorine for free, were just as likely to use it as those who paid. The screening effect, however, did exist: A 10 percent increase in the price of the disinfectant led to a 3 to 4 percent increase in the probability that the eventual owners of the disinfectant would be found using it. Charging did screen out some people who were always unlikely to use the product, although it also screened out some who would have used it, had the chlorine been free.

The importance of this screening effect depends heavily on what happens to the bottles of chlorine that people accept or buy, but do not ultimately use in their drinking water. If people accept chlorine bottles, intending to use them in their drinking water, but do not immediately use these bottles, they are unlikely to continue accepting more and more bottles in subsequent rounds of free or subsidized distribution. Thus the screening effect of charging would be less useful in reducing waste in the long-term. If people are accepting the chlorine to use it for less socially important purposes (such as cleaning), the screening effect of pricing may be more useful for achieving the more socially important health benefits. This raises an important general point: Whether recipients tend to use health products for other (less socially important) purposes should be a factor in deciding whether to prioritize a product for free distribution.

### 3.3 Result 3: Cost-sharing fails to target those who most need a product

Some people stand to benefit more from health products than others. If they are aware of this fact and thus are more willing to pay for these products, charging may be a convenient way to target subsidized products to the most needy. In contrast, if those who need a product most are also poorer and less able to afford fees, charging may actually lead to worse targeting.

**Fees failed to target the sickest or the most vulnerable.** In Kenya,<sup>(1)</sup> children with high parasitic worm loads would

### Charging small fees in an attempt to balance access and “sustainability” may be the worst of both worlds, as small fees raise little revenue, but dramatically reduce access to important products for the poor

- *Relative to free distribution, charging even very small user fees substantially reduces adoption.* When a program in Kenya moved from free deworming to charging an average of 30 cents per child, take up fell from 75 to 19 percent. Similar declines were seen when charging for water disinfectant and long-lasting insecticidal bednets.
- *There is no evidence that the act of paying for a product makes a recipient more likely to use it.* A common claim is that people are more likely to use what they have sacrificed for, but two studies designed to test this found no effect.
- *In general, cost-sharing does not appear to concentrate adoption on those who need products most.* Families with children under five are not more likely to buy water disinfectant; pregnant women who buy long-lasting insecticidal bednets appear no sicker than average; and parents of children with high parasitic worm loads are no more likely to purchase deworming pills.
- *Receiving a product for free can even increase willingness to pay for it later.* While some argue that giving something away makes people less likely to pay for the product in the future, those given a free long-lasting insecticidal bednet in Kenya were more likely to buy one later, as were their neighbors, presumably because they learned about the benefits of the product.
- *There may be other reasons to charge.* User fees may incentivize service providers to stock supplies and come to work, and the importance of these potential effects needs rigorous evaluation. Even if user fees serve these purposes, there may be better ways to incentivize service providers than user fees, which restrict access for the poor.

have benefited most from deworming treatment, but their families were no more likely to pay for treatment than the families of children with low worm loads. Malaria in pregnant women can result in anemia, potentially leading to negative impacts on a woman’s health and the health of her child. However, in Kenya<sup>(2)</sup> pregnant women who were willing to pay higher prices for bednets appeared no sicker (in terms of measured anemia) than the average prenatal client when they made their purchase. Families with young children have a higher need for bednets to protect against malaria, but in Uganda,<sup>(5)</sup> households with more young children actually had a lower willingness to pay for bednets.

Young children are particularly vulnerable to the negative effects of diarrhea, but families with more young children in Zambia<sup>(6)</sup> were not willing to pay higher prices for chlorine than other families. Similarly in Kenya,<sup>(7)</sup> families with young children were no more likely to buy subsidized chlorine for their drinking water than families without small children.

Taken together, these five studies indicate that charging fees is not generally a reliable way to help target health products to those who need them most.

### 3.4 Result 4: Long-term effects of free distribution

Many NGOs and governments worry that if products are distributed for free, people will resent having to pay for them in the future. They fear that if funding for free distribution runs out, take-up will plummet below what it was before free distribution. Dupas's study in Kenya<sup>(4)</sup> was designed to answer this question: Will those who receive a free long-lasting insecticidal bednet be more or less willing to pay for a bednet one year later?

Dupas found that learning about the benefits of a product through free distribution may actually make people more willing to pay for a product in the future. In this follow-up study, Dupas returned to households one year after they had been offered free or subsidized bednets and offered them the chance to purchase another net for \$2.30. Those who had been offered free nets previously were 41 percent more likely to buy a net than those who had been offered nets at a subsidized price, even though the former group was more likely to already own a net.

The neighbors of those offered free nets were also more likely to buy a net than the neighbors of those who had to pay for a net. The reason? Free distribution meant people had more neighbors with nets, so it is possible that they had greater exposure to the benefits of the nets and thus were more likely to purchase one.

In this case, people did not get used to receiving something for free; they got used to the benefits of bednets. While fewer studies have examined the long-term effects of free distribution, these results suggest that individuals may not resent having to pay after having received a product for free in the past.

### 3.5 Result 5: Why are people so sensitive to small user fees?

Individuals in these studies were extremely sensitive to small user fees. A standard economics view would suggest that if someone is not prepared to pay much for something then it cannot be of much use to them. But a number of pieces of evidence suggest that this is too simplified a story. For example, as discussed previously, people were both reluctant to pay much for a bednet and yet were unwilling to sell it for a much higher price. Why are individuals so reluctant to invest even small amounts in preventive health products?

**People may simply not have the cash on hand to purchase a product.** In Hoffmann *et al.*'s study,<sup>(5)</sup> individuals using their own cash were willing to pay on average \$2.34 for

### User fee revenue comes at a cost

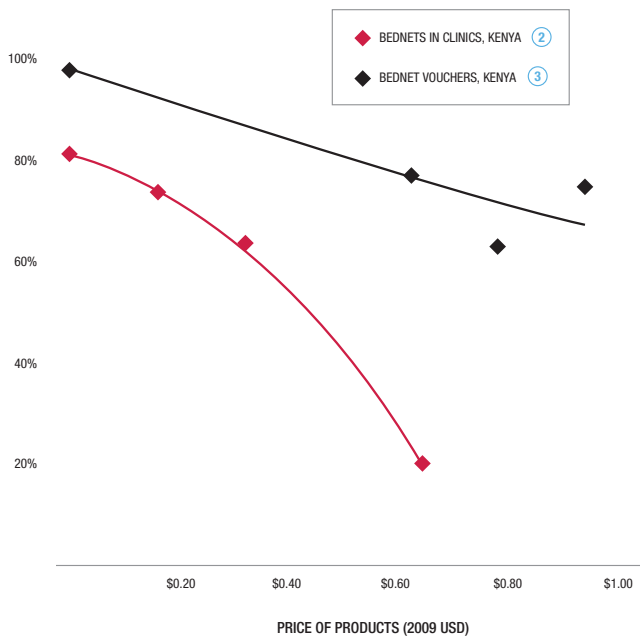
User fees have long been advocated as a way to help recover costs and make programs more financially sustainable. However, if charging small amounts significantly reduces take-up, the cost of administering the program will be amortized over far fewer users, increasing the administrative costs per person. For example, in the deworming program in Kenya,<sup>(1)</sup> fewer families chose to deworm their children under cost-sharing, resulting in much higher administrative costs per child. Overall, the researchers find that the cost per child dewormed under cost-sharing was more than twice as high as under free distribution (\$4.26 vs. \$1.48), and far fewer children received the treatment.

Charging may generate some revenue to help cover program costs, but it is important to realize that the revenue generated under cost-sharing comes at a cost to the poor. In other words, collecting money through user fees will not necessarily increase the cost-effectiveness of a program when one considers the costs and benefits from a societal perspective, rather than from the perspective of the organization implementing the program. In their study of bednets in Kenya, Cohen and Dupas<sup>(2)</sup> find cost-sharing to be at best marginally more cost-effective than free distribution, but suggest that free distribution could save many more lives.

a bednet. When the researchers provided people with enough cash to buy a net, the individuals were willing to pay more than twice that amount (\$5.94).

In an evaluation by Dupas in Kenya,<sup>(3)</sup> demand for bednets fell less steeply with price when households were given more time to raise the funds to purchase them (Figure 3). Unlike the previous Cohen and Dupas study,<sup>(2)</sup> in which pregnant women needed to purchase a bednet on the spot, in this evaluation households were given three months to redeem vouchers for discounted bednets in local stores. When individuals had time to come up with the money to purchase a bednet with a voucher, far more chose to purchase a net at a given price. The time people took to redeem the voucher also increased with the price of the net: Those who received a voucher for a free bednet redeemed it within a few days, while those who received a voucher for a subsidized bednet took one to two months to redeem the voucher.

In a randomized evaluation in rural Orissa, India, some microfinance clients were offered insecticide-treated bednets for free, while others could buy them at full price with the option of a one-year credit contract at 20 percent interest. After having two days to think about the offer, 52 percent of households purchased at least one bednet on credit. In the free group, 96 percent of households received a bednet (Tarozzi *et al.* 2011). While the microfinance clients in this study represent a different population than that of the other bednet evaluations in this bulletin, demand fell much less steeply with price when credit was available for the bednet.



**Figure 3.** Price Sensitivity Falls when People Have More Time to Buy.

This suggests that a lack of cash on hand explains at least part of the drop in demand seen with user fees, although it is also possible that people put less emphasis on costs in the future (in this case, loan repayments).

#### 4 Convenience also matters

Just as people are sensitive to small prices, they are also sensitive to distance. Some additional evaluations find that convenience matters more than would be predicted by standard economic models, which suggests that behavioral aspects influence take-up as well. Evaluations available at [www.povertyactionlab.org](http://www.povertyactionlab.org) found that take-up dropped with distance for services ranging from immunizations to HIV test results, and for products ranging from iron-fortified flour to clean water.

This reinforces the concern that people underinvest (both in time and money) in preventive healthcare. Behavioral economics has focused attention on one potential explanation, present bias, where immediate concerns trump long-term factors.

#### 5 Does deliberation deter purchases?

One study in rural India<sup>(8)</sup> tested the idea that the effort involved in thinking about a purchasing decision may deter people. If a product or service is free, however, the calculation becomes much simpler—there are no costs, only benefits—and people may be more likely to take the good. Individuals randomly assigned to the treatment group were asked questions designed to require thinking about the value of money. Relative to a comparison group asked unrelated questions, the treatment group was slightly more likely to purchase soap at higher prices. However, the magnitude of the effect was

small, and at best it explains a small part of why people are so price sensitive to small costs. It is also possible that deliberation costs are a factor only when people face time pressure to make a decision on the spot.

The very low take-up of preventive health products presents a puzzle. A lack of cash on hand can explain part of the puzzle, and inconveniences like travel distance also play a role. Although there may still be debate about why we see this behavior, there is strong evidence that very small increases in price deter many.

## 6 Policy Lessons

Charging small fees in an attempt to balance access and “sustainability” may be the worst of both worlds, as small fees raise little revenue, but dramatically reduce access to important products for the poor.

Amid calls to improve the effectiveness of poverty programs, are user fees the answer? Does cost-sharing promote sustainability? Does it improve targeting? Will people use what is free? Does charging simply screen out the poor? Who, in a household, gets what is paid for?

Ten experiments which randomly varied prices for important health and education products offer some answers to these questions. Together they suggest that charging even very small user fees often sharply limits access to health and education products and services without promoting use or encouraging better targeting to any useful extent. Some results suggest that free distribution does not necessarily undermine the willingness of users to buy the product in the future. Indeed, free distribution can help people understand the benefits of a product and make them more willing to pay for it in the future. Additional results imply that households who receive a product for free are reluctant to resell it.

However, governments and agencies cannot provide everything for free. What guidance do these ten experiments offer the debate on cost-sharing? When are the disadvantages of cost-sharing likely to be so great that products should be offered for free?

### 6.1 When to distribute for free

- **When benefits extend beyond the immediate user.** Many investments in education and health have additional benefits to the community associated with widespread individual use. For example, individual immunizations, deworming treatment, or bednet use can reduce disease transmission in a community. In cases where these benefits to the community are large, distributing these products for free can lead to a larger social benefit than charging. Therefore, products which reduce the prevalence or transmission of diseases, which might inspire neighbors to adopt beneficial new technology, which boost the productivity of others, or which otherwise have benefits beyond its users are good candidates for free distribution.
- **When products and services are aimed mainly at preventive behavior.** Many cost-effective preventive



### What we don't know about charging

There may be other reasons to charge user fees. For example, as supplements to salaries, user fees could provide incentives for service providers to keep products in stock, to replenish supplies, and to come to work. These effects have yet to be tested by randomized evaluations.

Further studies could also explore alternative ways of incentivizing service providers and keeping products in stock, while avoiding the large drop in take-up caused by user fees. J-PAL's bulletin on service provider attendance, "Showing Up is the First Step," illustrates how complex incentivizing service providers can be and offers some positive examples of programs that have been effective at reducing absenteeism among teachers, doctors, and nurses, without relying on user fees or cost-sharing.

health products are available across the world, but individuals are not choosing to purchase them. Pricing policies that help people make up-front investments in prevention, or help them persist in long-term health investments, may have especially large payoffs.

- **When the product is very cost-effective.** Some health products are very cheap relative to their benefits. In this case, even if some of the product is not used for its intended purpose or goes to people who do not use it, mass free distribution can still be highly cost-effective.

In situations where children benefit but parents have to pay user fees, there may similarly be a risk of underinvestment if parents do not fully take into account the benefits to the child. And finally, to the extent that liquidity constraints (i.e. simple lack of ready cash) explain underinvestment, free distribution is particularly important for those with the most acute liquidity constraints, often the poor and women.

Many difficult logistical issues remain for implementing systems of free distribution of cost-effective products for the poor. In many cases where governments have announced free primary education or free healthcare for pregnant women and children, unofficial fees remain the norm. How can these unofficial fees be eliminated most effectively? How can health workers be prevented from selling products that should go to the poor for free? If fees are effectively eliminated and no longer supplement the incomes of service providers, will their absenteeism increase? Are clinics that provide products for free more subject to stockouts, and if so, how can stockouts be reduced? Additionally, broader questions remain on the impact of user fees for other types of health services. We know much less about the effect of user fees on take-up of treatment for acute illness, for example.

These are all important questions that need to be answered through rigorous evaluation. But the evidence summarized in this bulletin suggests that user fees, even small ones,

are imposing a very high price on the poor and dramatically curtailing the potential benefits from primary education and highly effective preventive health products.

### References

- (1) Kremer, Michael and Edward Miguel. 2007. "The Illusion of Sustainability." *Quarterly Journal of Economics* 122(3): 1007-1065.
- (2) Cohen, Jessica and Pascaline Dupas. 2010. "Free Distribution or Cost Sharing? Evidence from a Randomized Malaria Prevention Experiment." *Quarterly Journal of Economics* 125(1): 1-45.
- (3) Dupas, Pascaline. 2009. "What Matters (and What Does Not) in Households' Decision to Invest in Malaria Prevention?" *American Economic Review* 99(2): 224-230.
- (4) Dupas, Pascaline. 2010. "Short-Run Subsidies and Long-Run Adoption of New Health Products: Evidence from a Field Experiment." NBER Working Paper No. 16298.
- (5) Hoffmann, Vivian. 2009. "Intrahousehold Allocation of Free and Purchased Mosquito Nets." *American Economic Review* 99(2): 236-241.
- Hoffmann, Vivian, Christopher Barrett, and David Just. 2009. "Do Free Goods Stick to Poor Households? Experimental Evidence on Insecticide Treated Bednets." *World Development* 37(3): 607-617.
- (6) Ashraf, Nava, James Berry, and Jesse M. Shapiro. 2010. "Can Higher Prices Stimulate Product Use? Evidence from a Field Experiment in Zambia." *American Economic Review* 100(5): 2383-2413.
- (7) Kremer, Michael, Edward Miguel, Sendhil Mullainathan, Clair Null, and Alix Peterson Zwane. 2011. "Social Engineering: Evidence from a Suite of Take-up Experiments in Kenya." Working paper.
- (8) Spears, Dean. 2010. "Decision Costs and Price Sensitivity: Field Experimental Evidence from India." Working Paper.
- (9) Evans, David, Michael Kremer, and Mũthoni Ngatia. 2009. "The Impact of Distributing School Uniforms on Children's Education in Kenya." Mimeo. Harvard University.
- (10) Duflo, Esther, Pascaline Dupas, Michael Kremer, and Samuel Sinei. 2006. "Education and HIV/AIDS Prevention: Evidence from a Randomized Evaluation in Western Kenya." World Bank Policy Research Working Paper Series No. 4024.
- Dupas, Pascaline. Forthcoming. "Health Behavior in Developing Countries." *Annual Review of Economics* Vol. 3.
- Kremer, Michael and Alaka Holla. 2009. "Pricing and Access: Lessons from Randomized Evaluations in Education and Health." In *What Works in Development? Thinking Big and Thinking Small*, ed. Jessica Cohen and William Easterly, 91-119. Washington DC: Brookings Institution Press.
- Tarozzi, Alessandro, Aprajit Mahajan, Brian Blackburn, Dan Kopf, Lakshmi Krishnan, and Joanne Young. 2011. "Micro-loans, Insecticide-Treated Bednets and Malaria: Evidence from a Randomized Controlled Trial in Orissa (India)." Working paper.