

Are people willing and able to pay for malaria services?

Prof William Brieger summarises the research on consumer interest in preventing malaria. In a donor-driven environment it makes for interesting reading

Not long ago the Roll Back Malaria Partnership was celebrating the fact that funding for malaria programmes had increased 10-fold between 2000 and 2010,¹ but just a few months ago the Global Fund to Fight AIDS, TB and Malaria (GFATM) announced that it was suspending its proposed Round 11 funding cycle.² Instead, countries with existing grants, wherein services to people in need would be disrupted before the anticipated 2014 resumption of funding, were asked to apply for transition funding.³ Subsequently major changes in leadership occurred at GFATM as the Executive Director stepped down and a General Manager assumed the main duties of running the organisation.⁴

In light of the impending financial crisis, the Gates Foundation renewed its support to the Global Fund.⁵ Likewise the government of the United States⁶ pledged their continued support. The US is continuing its President's Malaria Initiative, which has expanded from 15 to 19 countries in Africa and the Mekong region of South-east Asia,⁷ and other bilateral and multilateral assistance remains fairly much in place, but is all of this enough?

Under an ideal situation government, philanthropic and corporate entities in endemic countries would be ready to pick up any gap in funding and services. In reality in most endemic countries, the bulk of financing for malaria prevention and treatment services comes from out-of-pocket (OOP) expenditures by the common person and household.

Figure 1 shows OOP expenditures for malaria from a sampling of endemic African countries between 2005 and 2010, as found on WHO's National Health Accounts website.⁸ OOP expenses for general health expenditure accounts for from between 23% and 38% of total health expenditure in the five countries shown,



Chemical seller shop in Ghana selling AFMm medications

but between 33% and 66% for malaria expenditures. Clearly households bear more of the brunt for preventing and treating malaria despite the availability of international donor funds. If such funds start to dry up, the proportion will only increase.

The unfortunate situation today is that the major gains made in coverage of key malaria prevention and treatment interventions are threatened by reduced funding. We are at risk of receding from our goals and targets, hence the 2012 World Malaria Day theme is, 'Sustain Gains, Save Lives: Invest in Malaria' in order to meet the 2015 targets of zero malaria deaths.⁹

Since so much of the cost of malaria services, notwithstanding the questionable quality of some, is covered by the general population, it is important to draw on studies that seek to document people's Willingness to Pay (WTP) for a variety of services including insecticide treated nets (ITNs), malaria medicines/treatment, and even future interventions such as vaccines.

WTP is a research process that asks people whether they are willing to pay for a product or service and if so, how much they would spend. According to the website, Environmental Economics, 'Willingness (and ability) to pay is the foundation of the economic theory of value. The idea is, if something is worth having, then it is worth paying for.'¹⁰ David Lyon explains that WTP is measured through a questionnaire that, 'describes the new product or service in detail', then asks the user, 'How much would you be willing to pay for this?' using an open ended approach.¹¹

Willingness to pay for nets and prevention

The scale-up to achieve universal coverage¹² of ITNs over the past couple of years has been based primarily on providing approximately two nets free to each household. Previously, free nets had been distributed during routine services like antenatal care and child health clinics.

There were examples of subsidised nets being sold to people using a voucher system wherein one would take the voucher, often obtained at clinic, to a shop where

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a net could be purchased at a reduced price. Tanzania was an example of a 'successful' subsidised net voucher system, and yet coverage figures remained low, below 30%, and distribution was inequitable.¹³ A change to free nets increased net ownership by three times.

Of course there were usually nets sold through normal commercial channels, some of which were insecticide treated and others not. Given the need to replace nets provided under universal coverage campaigns in the near future, as well as the reduced prospects of donor support for net costs, the issue of WTP gains renewed credence.

The issue of commercial channels was highlighted in a study from Mozambique wherein people with higher levels of formal education and greater knowledge about the actual market conditions for nets expressed a greater willingness to pay for them. Overall only one-fifth were willing to pay and those mentioned prices on average between US\$2 and US\$3. Based on this the authors concluded that free or subsidised nets would be required to achieve universal coverage.¹⁴

In contrast, a study in Ethiopia found that 85% of their population would pay for a net. The interesting aspect of that study was that price varied according to type of net. People were willing to pay 'US\$3.3 for a blue conical ITN, US\$3.2 for a white conical one, and US\$1.7 for a blue rectangular ITN.'¹⁵ These findings provide valuable lessons for marketing in the event that the commercial sector becomes a major player in sustaining universal coverage.

Although there is no vaccine currently on the market for malaria, it is possible within the next few years that one might be included in child immunisation programmes. While existing vaccination efforts are provided for free, Udezi and colleagues explored people's willingness to pay for a hypothetical malaria vaccine, in part as a way to determine their valuation of malaria prevention.¹⁶ They proposed the following three scenarios to respondents:

- Vaccine A was 75% effective, protected for 3 years, and was well tolerated.
- Vaccine B was 85% effective, protected for 6 years, and was less well tolerated than vaccine A.
- Vaccine C was 95% effective and protected for 12

years, but was the least well tolerated.

People were willing to pay over US\$6 for A and B but only US\$5 for C. Aside from contemplating people's differing perceptions of effectiveness versus side-effects of potential vaccines, the lesson of relevance here is that people are willing to pay for prevention (although their estimated valuations varied widely).

Willingness to pay for treatment

The first step in the treatment process is proper diagnosis. With the advent of more expensive artemisinin-based combination therapy (ACT) drugs, most countries are pressing towards parasitological confirmation prior to treatment. This poses a challenge to both health workers and the public both of whom have been used to presumptive treatment based on clinical signs and symptoms. As we move further along the path towards elimination of malaria, fewer fevers will actually signal malaria disease, and use of expensive ACTs in cases of unconfirmed malaria will become a huge waste of resources.

Researchers in Nigeria therefore, raised the question of whether people were willing to pay for rapid diagnostic tests (RDTs).¹⁷ They questioned people in two settings, in the clinic after a diagnosis using RDT and at home before seeking treatment. Among people in the clinic, 90% were willing to pay for RDTs compared with 38% for those interviewed at home. In the home interview setting only, more urban residents were willing to pay than rural ones.

Those at the clinic who were willing to pay stated an average price of US\$2.70 compared with US\$1.60 for those interviewed at home. In both settings urban residents were willing to pay more than those in the rural communities. These results stress that WTP is situational and can be influenced by familiarity and experience, but also demonstrate that poorer rural people can least afford to pay for essential malaria control.

Concerning actual medications, a study in Tanzania asked respondents what they would pay for child doses of ACTs. Most (92%) were willing to pay just under half a US dollar, but only 55% were willing to pay more.¹⁸ The favoured prices were less than the subsidised cost of the drugs and raised questions of equity and ability

to pay. Here again we have to wonder whether it is possible to engage the public in paying for malaria services if donor support dwindles.

It is worth looking at a pilot programme in eight countries, managed by the Global Fund, that is supposed to reduce the cost of malaria treatment – the Affordable Medicines Facility malaria (AMFm).¹⁹ The goal is to bring the price of WHO-approved ACTs down to levels formerly charged for cheap but no longer effective antimalarials like chloroquine and in the process drive unapproved and more costly drugs from the market, because at normal shop prices ACTs are not very 'saleable'.²⁰

Preliminary results of AMFm in Tan-

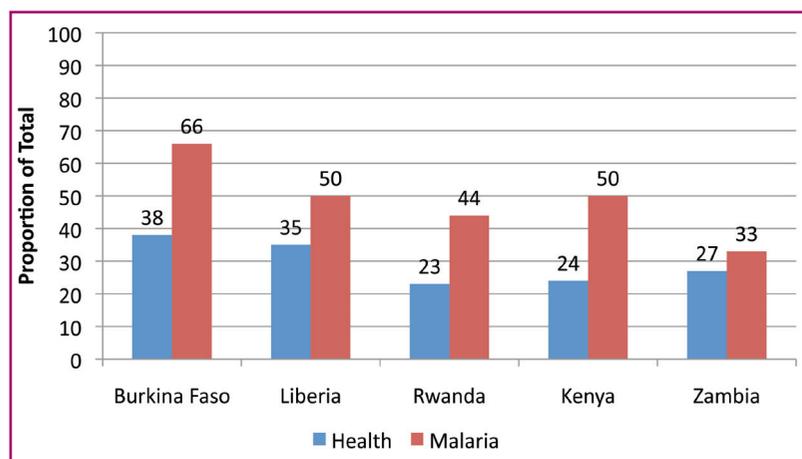


Figure 1 Out-of-pocket expenditure for health and malaria services as a proportion of all malaria expenditure



AMFm medication with green leaf logo in Ghana

ania have shown 'a dramatic increase in ACTs stocked in remote areas of some districts, which suggests that private sector distribution channels can be very efficient at achieving reach.²¹ Other countries have had challenges in maintaining the desirable price range and ensuring that supply systems work for all sectors. Such experiments still require donor input, but may possibly offer a balance between consumer OOP expenditure and development support.

Can willingness to pay sustain malaria control?

Nigerian National Health Accounts for 2005 shows that overall OOP expenditure accounted for 66% of total health expenditure.²² That report did not analyse separately for malaria. Given that context, it is not surprising that Jimoh and colleagues found that Nigerians were willing to pay relatively large amounts for malaria control.²³ They found that households are willing to pay on average a sum of US\$61 per month for the control of malaria, more than double the actual expenditures for the disease.

Ironically, while people may be willing to pay for malaria services, the continued prevalence of malaria in a given setting has an economic impact that reduces people's ability to pay. A few years ago, *The Tide News* quoted a report from the World Economic Forum that said, 'Malaria is estimated to cost sub-Saharan Africa about 0.6% of its gross domestic product (GDP), annually.'²⁴

The direct costs of malaria – the things people are willing to pay for such as purchasing medicines, nets, and the like – may often be covered by national programmes, but malaria still takes an economic toll. Research in Ethiopia demonstrated that productive days lost by household members are a significant factor in the economic devastation of the disease.²⁵ Added to this are transportation and other care-seeking costs.

While we can see that people have been and are willing to pay for malaria services, we do not know if this is enough to sustain the gains made in malaria control since the launching of Roll Back Malaria. Moving forward to malaria elimination, where there will be fewer cases, we hope that people will have to spend less. In the meantime, it is reasonable to expect that major donors should not abandon the hard-won progress in curbing this economically crippling disease.

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