Future Health Systems
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Policy Brief

March 2008 · No: 01

Malaria Treatment in Nigeria: The Role of Patent Medicine Vendors

Summary

Malaria is a major cause of illness and death in Nigeria. It is also a significant drain on its economy and a major financial burden to the poor. Most Nigerians do not get the right treatment. When someone has a fever they believe to be malaria, they usually go to a private patent medicine vendor (PMV) for anti-malarial drugs (AMDs). Although PMVs are the most common source of malaria treatment in Nigeria, little is known about them. It is important to understand the poorly regulated market in which they work because patients do not know what they are getting. This are a lot of substandard and fake drugs around. Also, the malaria parasite has become highly resistant to the medicines that were used in the past. The government has recently changed its guidelines and recommends that people use artemisinin-combined therapy (ACT). But it is not clear how this change in policy has affected the market that provides malaria treatment for most Nigerians.

A team from Ibadan University undertook a scoping study in 12 local government areas (LGAs) in three states to explore the malaria treatment market and the role of PMVs, and to look at ways to improve malaria treatment. The main findings are:

- PMVs are the largest source of malaria treatment in all areas
- PMVs have little knowledge of the new treatment guidelines, and most government officials know little about PMVs
- The PMVs provide many different drugs for malaria, but the most common and cheapest are the least effective
- The recommended treatment, ACT, is not readily available, and is the most expensive
- PMVs, other health providers, government officials, and community members share concerns about the quality of drugs
- The organisation of the supply chain for pharmaceuticals differs between states, meaning that local knowledge and locally adapted solutions are needed

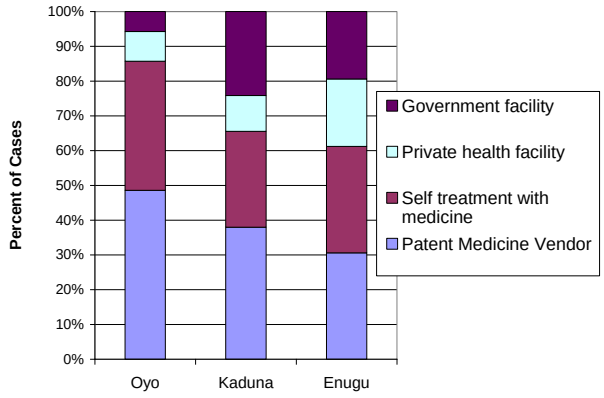
The study identifies new strategies for tackling these issues. They involve partnerships of PMVs, their associations, government officials and communities and may include the use of new communications and drug testing technologies.

New Information on Patent Medical Vendors

The following paragraphs summarise the findings of a study undertaken by the University of Ibadan, in collaboration with partners in the Future Health Systems Research Programme Consortium. Its purpose was to increase understanding of the malaria treatment markets and the role of PMVs, and identify ways to improve malaria treatment. The study involved interviews with 110 PMVs and 113 households in 6 urban and 6 rural LGAs from Oyo, Kaduna, and Enugu States. This was supplemented by interviews with 54 community leaders, 55 PMV Association officers and 31 government and health officials, and direct observations of 106 drug shops in the same communities.

The household survey confirmed that PMVs are the largest source of treatment for malaria at all the study sites. This includes those reporting self-treatment with modern medicines, which are mostly from PMV drug shops (Figure 1).

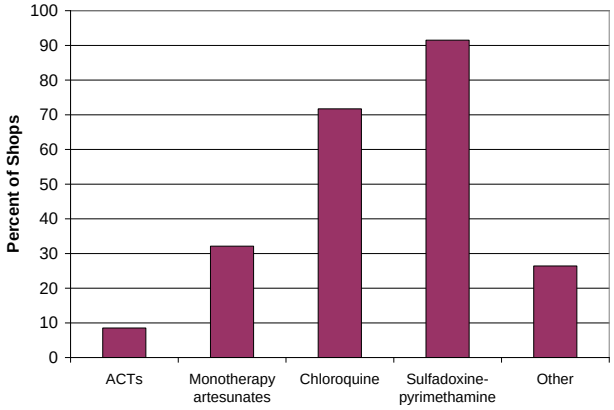
Figure 1: Sources of treatment for malaria in each State (Percent of 1st Treatment)



Source: Household Survey

All the PMVs surveyed identified Chloroquine as a treatment for malaria, and nearly all recognized common brands of Sulfadoxine-pyrimethamine. Two-thirds were able to identify ACTs, and *Coartem* brand in particular. Observation of PMV shops revealed an average of 5.5 different brands per store for treating malaria. Sulfadoxine-pyrimethamine was the most common drug (92% of shops), followed by Chloroquine (72%), with ACTs being the least in stock (9%) (Figure 2). Monotherapy artesunate drugs were more common (32%). This is troubling, because they should not be used because of the danger that the malaria parasite could become resistant to it.

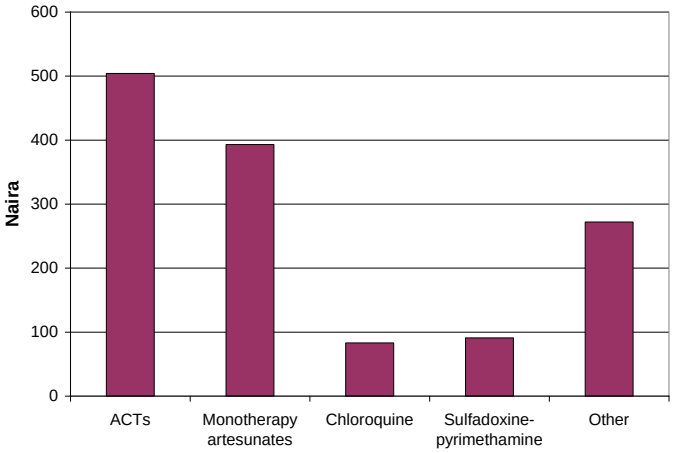
Figure 2: Drugs most commonly found at drug shops (Percent of shops with type of drug)



Source: PMV Shop Survey

ACTs were the most expensive drug for treating malaria, averaging 504 Naira (US$ 4) per course of treatment. Chloroquine was the cheapest at 83 Naira. Monotherapy artesunates were also cheaper than ACTs (Figure 3).

Figure 3: Cost of malaria treatment (Mean price per treatment dose)



Source: PMV Shop Survey

Relatively few PMVs were aware of the new government policy on AMDs. PMVs from Oyo state were more aware of the change than those from other States (Table 1). PMVs from Oyo state were more likely to get their information about drug regulations from drug companies than from the government, in contrast to those from Kaduna and Enugu.

Table 1: Awareness by PMVs of the new policy for treating malaria with ACTs (Percent of PMVs with response)

	Oyo	Kaduna	Enugu	Total
Aware of new government policy on AMDs	79.5	25.8	15.6	43.1*
Knowledge of change in policy concerning Chloroquine or ACTs	51.3	9.7	6.3	24.5*
PMVs main source of information on drug regulation				
Government (%)	2.6	54.5	36.4	29.8*
Drug Company (%)	81.6	30.3	21.2	46.2*
Patent Medicine Vendors (n)	*(40)*	*(34)*	*(36)*	*(110)*

Source: PMV Survey

** Differences between states are statistically significant at p < 0.05*

The source of anti-malarial drugs for PMVs differs between states. PMVs mostly use open commercial markets in Oyo and Enugu, whereas manufacturers and commercial distributors play a greater role in Kaduna (Table 2). PMVs also have different levels of satisfaction with the source of their drugs, suggesting that there may be ways of appealing to PMVs through better sourcing of drugs, particularly in Kaduna and Enugu.

Table 2: Sources of drugs for PMVs in each State (Percent of PMVs with response)

	Oyo	Kaduna	Enugu	Total
Type of Source*				
Open Market	74.4	25.0	51.5	51.9
Manufacturers/Distributors/Agents	0.0	40.6	12.1	16.3
Both	25.6	34.4	36.4	31.7
Satisfaction with the Source*				
Highly Satisfactory	71.8	21.9	20.6	40.0
Satisfactory	28.2	56.3	50.0	43.8
Fairly Satisfactory	0.0	18.8	14.7	5.7
Not Satisfactory	0.0	3.1	14.7	5.7
Patent Medicine Vendors (n)	***(40)***	***(34)***	***(36)***	***(110)***

Source: PMV Survey
** Differences between states are statistically significant at p < 0.05*

Households, community leaders, government officials, PMVs, and PMV Association leaders all voiced concern about the quality of anti-malarial drugs. Community leaders were particularly worried about fake and substandard drugs. Household members judged the quality of a drug by the degree to which it produced a good response (62%). A significant proportion of people knew the importance of the expiry date (43%) and a NAFDAC number (42%).

Patent medicine vendors had limited ways to identify fake drugs including: lack of a NAFDAC number (43%), rough packaging (27%), no manufacturer's name (12%) and no expiry date (8%).

Table 3: Why do PMVs sell low quality drugs, and what can be done about it (Percent of PMVs)

	Oyo	Kaduna	Enugu	Total
Primary reason cited for prescribing low quality drugs				
Ignorance (%)	8.3	33.3	25.8	21.6
Profit/Greed (%)	91.7	66.7	74.2	78.4
Potential sources of regulation to reduce low quality AMDs				
Government Regulation (%)	50.0	84.8	60.6	64.4
PMV Self Regulation (%)	42.1	6.1	21.2	24.0
Drug Company Regulation (%)	2.6	6.1	9.1	5.8
Corruption is a serious constraint to the regulation of fake AMDs	8.3	26.7	33.3	22.2
In favour of community involvement in drug regulation	97.4	87.5	88.2	91.4
Patent Medicine Vendors (n)	***(38)***	***(33)***	***(33)***	***(104)***

Source: PMV Survey

What can be done to reduce the selling of fake drugs? The answer in part depends on why they are sold, and the information available for action. According to PMVs, knowledge about the fake drugs may not be the most important factor. When asked why some PMVs sell fake AMDs, a large proportion said the primary reasons were greed (78%) and ignorance (Table 5). Most PMVs (64%) said that stronger government regulation was needed to reduce the availability of fake drugs, while nearly a quarter called for self-regulation through PMV associations. Despite the call for stronger regulation, around a fifth of PMVs expressed concern that corruption would impede the enforcement of drug regulations by the government.

Working in collaboration is another approach, but it would require government officials to know more about PMVs and their associations. PMV associations have been operating for many years. They identified a common set of concerns by their members that include harassment by regulatory agencies (52% of PMV officers), problems with financial constraints (33%) and problems relating to difficulty in finding good quality drugs and in securing licenses from the government.

Getting communities more involved in regulation also offers promise. Over 90 percent of PMVs thought it was a good idea to involve community members in monitoring the quality of drug (Table 3). Regulatory agencies and government officials also strongly supported community involvement in drug regulation.

Policy Actions Needed Now

Actions to improve the provision of quality treatment for malaria will have to address the issues identified in these studies. They involve getting community organizations, PMVs and their associations, and government agencies to work together. Specific steps should include:

1. Training PMVs and their drug suppliers about appropriate malaria treatment and about the potential role of insecticide-treated nets in malaria prevention.

2. Reducing the opportunities for PMVs to supply sub-standard drugs through a combination of more effective government regulation, PMV association self-regulation, and community involvement involving:

    a. Educating communities on appropriate malaria treatment.

    b. Increasing the roles of community organizations in monitoring drug quality. Tasks can include looking for NAFDAC registration and expiry dates and the use of simple technologies for testing drug quality or scanning product identification.

    c. Using information and communication technology, such as mobile phones, to provide

real-time support to PMVs and regulators. PMV associations could use new drug testing technologies.

d. Exploring new approaches for broadening participation in the formulation and dissemination of drug policies and guidelines.

3. Negotiating ways in which PMVs shops that meet certain quality standards can form a franchise to provide anti-malarial drugs for children at subsidised prices.

4. Encouraging governments in Nigeria and elsewhere to finance subsidies for ACTs to reduce their prices below undesirable alternatives in the market. This will also require careful monitoring of how such subsidies affect local markets and consumer behaviour.

Further Studies

This scoping study provides a quick assessment of the malaria treatment markets and the role played by patent medicine vendors in Nigeria, and offers ways to improve the regulation and provision of anti-malarial drugs. It documented the sources of drugs in the three states and people's problems in getting access to appropriate treatment for malaria. More information is needed on:

1. Institutional arrangements within which patent medicines vendors obtain their supplies and the kinds of arrangements between wholesalers and retailers, the role of middlemen and drug retailers, and the activities of wholesaling companies.

2. The incentives and disincentives for PMVs and their suppliers that would reduce the risk of sub-standard drugs reaching PMV shops.

3. Organisation and performance of patent medicine vendors associations and the type of relationship between them and government health officials and drug regulatory agencies.

Future Health Systems

Future Health Systems (FHS) is a Research Programme Consortium supported by the UK Department for International Development. Partners are Johns Hopkins Bloomberg School of Public Health, USA; China Health Economics Institute; ICDDR,B, Bangladesh; Indian Institute of Health Management Research; Institute of Development Studies, UK; Makerere University School of Public Health, Uganda; University of Ibadan, Nigeria. More information can be found at: www.futurehealthsystems.org

The aim of the Future Health Systems Research Programme Consortium Future Health Systems is to find ways to translate political and financial commitments to meet the health needs of the poor. The consortium addresses fundamental questions about the design of future health systems, and work closely with actors who are leading the transformation of health systems in their new realities. This consortium addresses fundamental questions about the design of future health systems, and works closely with people who are leading the transformation of health systems in their own countries. Our research themes are:

- Protecting the poor against the impact of health-related shocks
- Developing innovations in health provision
- Understanding health policy processes and the role of research

The FHS consortium is appreciative of the support provided by the United Kingdom Department for International Development (DFID). The ideas represented in these papers are the responsibility of the authors, and do not reflect the policies of DFID.

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