Barriers to Uptake of Malaria Prevention and Treatment During Pregnancy in Cross River and Nasawara States, Nigeria

November 2012

By Chamberlain Diala, Thaddeus Pennas, Patricia Choi, and Susan Rogers

This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of Agreement No. GPO-A-00-07-00004-00. The contents are the responsibility of the C-Change project, managed by FHI 360, and do not necessarily reflect the views of USAID or the United States Government.
Recommended Citation:

C-Change is a USAID-funded project implemented by FHI 360 and its partners: CARE; Internews; Ohio University; IDEO; Center for Media Studies, India; New Concept, India; Soul City, South Africa; Social Surveys, South Africa; and Straight Talk, Uganda.

Contact Information:
C-Change
FHI 360
1825 Connecticut Avenue, NW
Washington, DC 20009
Phone: (202) 884-8000
Fax: (202) 464-3799
www.c-changeproject.org
Acknowledgments

C-Change staff in Nigeria and Washington DC supported and assisted the survey and wrote the final report. Chamberlain Diala, Thaddeus Pennas, Susan Rogers, and Patricia Choi designed the survey. Seyi Olujimi supervised the process in Nigeria, Chamberlain Diala provided the final technical review, and Hilary Russell edited the document.

The following staff of the Center for Research Evaluation and Resource Development (CRERD) in Nigeria conducted focus group discussions and in-depth interviews and contributed to the study: Alfred Adewuyi, Adesegun Fatusi, Oka Obono, Ufoma Idiodi, Zakari Musa Zani, Zakari Zakari, and Erioluwa Adeloye. Elizabeth Omoluabi of CRERD wrote the initial draft.

C-Change is grateful to participants and facilitators of focus group discussions and in-depth interviews in both states and for the support of stakeholders in malaria prevention and control programs in Nasarawa State and Cross River State.

Finally, we acknowledge the support and funding from the President’s Malaria Initiative (PMI); and the input of the USAID field team in the final design and review of this report.

Acronyms

ACT Artemisinin-based combination therapy
ANC Antenatal care
DOT Directly observed therapy
FANC Focused antenatal care
FGD Focus group discussion
IDI In-depth interview
IPTp Intermittent prevention therapy of pregnant women
ITN Insecticide-treated net
LGA Local Government Area
LLIN Long-lasting insecticide treated net
MIP Malaria in pregnancy
PHC Primary health care
SBCC Social and behavior change communication
SP Sulfadoxine-pyrimethamine
## Contents

### Executive Summary  1

### 1. Background  3
- Malaria in Pregnancy  3
- The Situation in Cross River State and Nasarawa State  4

### 2. Study Objectives, Methods, and Participant Data  5
- Objectives  5
- Methods  6
- Data Collection, Data Analysis, and Quality Control  8
- Study Limitations  8
- Socio-Economic Characteristics of FGD Participants  8
- Access to Health Information  9
- Reported Uptake of ANC Services and IPTp-SP  9

### 3. Evidence from FGDs on Women’s Ability to Act on Prevention and Treatment  10
- Understanding and Perceptions of Malaria and Prevention Methods  10
- Understanding of Malaria Risk and the Need to Seek Care for MIP  11
- Perceived Reasons that Others Do Not Go to Facilities for Malaria Treatment  12
- Understanding of Approved Antimalarial Medications and Two Doses of IPTp-SP  13
- Willingness to Adhere to Instructions from Health Providers  14
- The Role of Husbands in Facilitating or Presenting Barriers to Uptake  14
- Family and Community Influences on Uptake  17
- Economic Barriers to Uptake  18
- Institutional Barriers to Uptake and Incentives to Return  18

### 4. Evidence from IDIs on Barriers to Uptake  19
- Gaps Relating to MIP Knowledge and Malaria Case Management  20
- Insufficient Training  21
- Stockouts  22

### 5. Conclusions and Recommendations  23

### 6. References  25
Executive Summary
Findings of this pilot study aim to inform communication efforts to improve use of and correct adherence to intermittent prevention therapy in pregnancy (IPTp) with sulfadoxine-pyrimethamine (SP). The study examines social, cultural, and economic factors that serve as barriers to malaria treatment for pregnant women in two states—Cross River and Nasawara—as well as factors that may facilitate their adherence to the recommended two-dose course of IPTp.

Study Methods
Cross-sectional qualitative surveys were conducted in rural and peri-urban areas of the two states. In addition to conducting 30 in-depth, individual interviews with health care providers who directly provide antenatal care (ANC) and/or malaria-related care for pregnant women in the two states, 34 focus group discussions (FGDs)—17 in each state—were held with women matching set age criteria who had attended antenatal care (ANC) facilities. Results of the study may not be generalizable because it was localized in public and private health facilities and engaged women already motivated to seek ANC services.

Two FGDs were also held with husbands or partners of women matching these criteria, but only in Nasawara State, which has a large Muslim population. In such states, previous studies indicated that many women—particularly young women—require explicit or implicit support from husbands or partners before they access ANC and IPTp. While support from husbands is recognized as a facilitator of ANC uptake, women in Cross River (and other states in southern Nigeria) are known to access care without this support.

Factors that Facilitate or Constrain Women’s Ability to Act on Malaria in Pregnancy
The study confirms that there are significant gaps between ANC attendance and uptake of IPTp among pregnant women in Cross River and Nasarawa states. Lack of knowledge of malaria signs and symptoms and malaria risk during pregnancy among pregnant women did not appear to be significant factors that contribute to these gaps, though specific knowledge on the correct medication, timing, and dosage remains a challenge.

For the most part, FGD participants indicated good knowledge of malaria signs and symptoms, the risks associated with malaria for pregnant women and unborn children, and malaria-prevention strategies. FGD data indicate that this understanding is linked to previous ANC visits and information from community health workers. FGD participants also expressed trust for government health facilities and willingness to comply with instructions from medical personnel. This is a key entry opportunity for generalizing the practice of IPTp to protect pregnant women from malaria.

The study also found that social or community factors—the support or disapproval of spouses or partners, relatives, friends—positively and negatively affects women’s health-seeking behavior relating to malaria in pregnancy (MIP). Neighbors or friends are often relied upon to confirm malaria diagnosis, and women may not seek treatment without this encouragement. FGDs also indicate that support from male partners can determine whether women seek care and comply with malaria treatment.

In-depth interviews with front-line health care providers indicate that they do not have sufficient training and experience in focused ANC care (FANC) that integrates malaria prevention and treatment.
Optimal use of malaria prevention and treatment services in ANC facilities is also constrained by perceptions of rude and unfriendly attitudes of health workers and systemic factors, such as long waits, and the requirement to pay for prescription drugs. In Nasarawa, frequent stockouts caused women to purchase anti-malarial drugs outside of health-center pharmacies, making impossible the monitoring of actual and correct use.

**Recommendations**

To reduce gaps in both states between ANC attendance and IPTp-SP uptake, frontline health care provider need to be provided with more training on MIP and IPTp-SP. Community workers require similar training, as they are an important source of health information for pregnant women and often motivate them to seek care in health facilities.

The facilities selected for the study did not yet offer integrated MIP services. Linkages need to be improved between state malaria control programs and federal reproductive health and maternal and child health programs. Harmonizing and coordinating their respective training workplans would help to improve the health system and the health of women and children in Nigeria.

Closing the gaps also requires the availability of sufficient quantities of approved and affordable anti-malarial medications in ANC facilities, as well the reduction of systemic barriers, such as long waiting times and disrespectful health care staff.

At the same time, social and behavior change communication (SBCC) programs need to address a lack of information about the risks of MIP and of non-approved prevention and treatment methods, such as use of traditional herbs.

SBCC programs must develop culturally compelling interventions and messages that not only improve the knowledge of pregnant women on MIP, but also mobilize and engage them, their partners or husbands, and local communities on its risks of and the need to seek treatment in health facilities. The study indicates that the support of husbands, neighbors, and other community members has a significant impact on health-seeking behaviors in relation to MIP and ANC.

The poor attitudes of health care workers towards their clients are one factor for under-utilization of services. Dedicated training to improve the attitudes of health care workers will therefore improve utilization of ANC services.

Communication programs need to mobilize communities as a whole, rather than seeking to change individual behavior in piecemeal fashion and hoping for “trickle-down” or “trickle-up” effects. They should consider the preferred sources of health information indicated by women in the study: radio and television, religious organizations, and community events. Communication programs also need to consider enlisting faith leaders and encouraging them to collaborate with health extension workers in the dissemination of accurate and effective messages about IPTp and malaria prevention.
1. Background

Malaria in Pregnancy

Malaria in pregnancy (MIP) is a major health concern in Nigeria. Infection is more frequent and serious during pregnancy and adversely affects the pregnant woman, the fetus, and the newborn. MIP leads to about 15 percent of maternal anemia cases, 5 to 14 percent of the low birth-weight cases reported, and increased rates of high-blood pressure in babies (Ayoola et al. 2011; Federal Ministry of Health and National Malaria Control Programme 2009; Okwa 2003; Desai et al. 2007).

Nigeria adopted intermittent preventive treatment of malaria in pregnancy (IPTp) as a national strategy in 2005, replacing weekly prophylaxis (Federal Ministry of Health and National Malaria Control Programme 2004, 2005; Lagerberg 2008). The current recommendation to control MIP is a three-pronged approach: 1) prompt and effective case management of malaria; 2) use of IPTp with at least two doses of sulphadoxine-pyrimethamine (SP); use of long-lasting insecticide treated nets (LLINs).

IPTp with SP is offered as a package through focused antenatal care (FANC) and as a national protocol. The national policy on case management of malaria stipulates the following steps in administering doses of artemisinin-based combination therapy (ACT):
1. Provide counseling on the use of ACT for malaria treatment.
2. Provide counseling on drug adherence and adverse reaction.
3. Administer the first dose by directly observed therapy (DOT).
4. Advise the client to return within 48 hours for follow-up.

The effectiveness of IPTp-SP in improving birth weight and reducing prevalence of preterm deliveries and maternal anemia in Nigeria has been documented (Desai et al. 2007). A full curative treatment dose of SP is supposed to be given free of charge to women attending antenatal care (ANC) services at public and NGO health facilities after 16 weeks of pregnancy, in their second and third trimesters. At least two doses are to be given at least one month apart. Guidelines issued by the World Health Organization (WHO 2010) state that this should occur under the direct observation and supervision of a provider (DOT). Other related services through ANC services include blood-pressure monitoring, hemoglobin estimation, and palpation.

Recent studies revealed that many pregnant women do not adhere to the recommended two-dose course (Onwujekwe et al. 2012; Akinleye, Falade, and Ajayi 2009). Indeed, meta-analyses of intervention trials in sub-Saharan Africa suggest that malaria in pregnancy is largely undetected and untreated, as it rarely results in fever or other symptoms.

In Nigeria, a large proportion of pregnant women do not go to a health facility when they have malaria. This is especially true in states where many Muslim women are in seclusion and do not make their own decisions about attending an ANC facility. In 2008, the proportion of women who received ANC from a skilled provider was estimated at 65 percent in the North Central region of Nigeria, 43 percent in the North East, and 31 percent in the North West, compared to 87 percent, 70 percent, and 87 percent for the South East, South-South, and South West regions (National Population Commission and ICF Macro 2009).
The Government of Nigeria, development partners, and funding organizations have initiated several strategies and programs to mitigate the impact of malaria on pregnant women and their children and set noble targets relating to the use and covering of LLINs.1

But Nigeria has a long way to go in achieving targets set by Roll Back Malaria for IPTp and pregnant women sleeping under LLINs. The 2010 Nigeria Malaria Indicator Survey suggested that only 33.7 percent of pregnant women slept under an insecticide-treated net (ITN) the night before the interview, including only about 65.6 percent of pregnant women in households that already owned an ITN (National Population Commission and ICF Macro 2010). In addition, only 13.2 percent of women who had given birth in the two years preceding the survey had received IPTp during their ANC visits. Among those who had received IPTp, the highest proportion (17.7 percent) resided in urban areas and lowest proportion (11.8 percent) lived in rural areas.

The Situation in Cross River State and Nasarawa State

Though Cross River and Nasarawa states have very different climatic, cultural, and socio-economic indicators, they share similar demographic and health indicators and high malaria burden. Cross River has higher humidity levels and is likely to have higher malaria prevalence.

As Table 1 shows, uptake of maternal health care is higher in Nasarawa than in Cross River, and levels of IPTp uptake in both states are higher than the national average (National Population Commission and ICF Macro). The table also shows that significant barriers to IPTp uptake occur at health facilities. Though uptake of ANC from a skilled health professional was reported to be 68 percent in Cross River and 72.6 percent in Nasarawa, just over 12 percent of pregnant woman reportedly received 2 doses of IPTp. This report investigated the reasons for these significant gaps.

Table 1. Demographic and Health Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>National</th>
<th>Cross River</th>
<th>Nasarawa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women without formal education</td>
<td>39.9%</td>
<td>8.5%</td>
<td>40.9%</td>
</tr>
<tr>
<td>Total fertility rate</td>
<td>5.7</td>
<td>5.4</td>
<td>4.7</td>
</tr>
<tr>
<td>Number of children ever born per woman</td>
<td>6.9</td>
<td>6.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Under 5 mortality</td>
<td>171/1000</td>
<td>138/1000</td>
<td>135/1000</td>
</tr>
<tr>
<td>Uptake of ANC from a skilled health professional</td>
<td>58%</td>
<td>68%</td>
<td>72.6%</td>
</tr>
<tr>
<td>Uptake of 2 doses of IPTp</td>
<td>5%</td>
<td>12.4%</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

Excerpted from National Population Commission and ICF Macro 2010

C-Change/Nigeria operates in both states, alongside other malaria prevention and control programs funded by USAID, the World Bank, and DFID. Among them is the USAID-supported Malaria Action Program for States (MAPS) Project in Nasarawa, which aims to help implement and scale up the use of LLINs and uptake of IPTp.

The Government of Cross River State is said to be a leader in public health, providing free or highly subsidized primary health care to pregnant women and children under age 5 and distributing over half a million ITNs, with support from the Canadian Red Cross and USAID (Erskine, Maleghemi, and Ugot 2011). The RBM program is directly under the auspices of the Executive Governor.

1 The 2000 Abuja Declaration targeted IPTp access for at least 60 percent of all pregnant women by 2005. (WHO and UNICEF 2003). Nigeria’s National Malaria Control Strategic Plan has also laid out specific targets (Hill and Kazembe 2006).
2. Study Objectives, Methods, and Participant Data

Objectives

The study sought to complement findings on knowledge gaps on malaria case management (Udonwa, Gyuse, and Etokidem 2010; Akinleye, Falade, and Alayi 2009; Mubyazi et al., 2005; Afolabi 1996), adding qualitative evidence to available quantitative evidence on low adherence to IPTp in Nigeria. The cross-sectional survey in peri-urban and rural communities in Cross River and Nasarawa investigated social and cultural barriers operating at individual, health facility, and community levels that influence IPTp uptake and adherence among pregnant women. More specifically, the study aimed to explain why many pregnant women do not complete the recommended IPTp course: two doses of SP at least one month apart.

Focus group discussions (FGDs) were designed to gather evidence on real and perceived logistical, social, and cultural barriers to IPTp-SP use and adherence, along with perceptions of the risks associated with MIP. Qualitative data from FGDs with pregnant and postpartum women and IDIs with frontline ANC providers in tertiary, secondary, and primary health facilities would not only help to fill knowledge gaps, but would inform and support the development of SBCC communication strategies and interventions that improve IPTp uptake and adherence.

The FGDs were planned with women of reproductive age—20 and older—who had attended postnatal and/or antenatal health facilities and were pregnant, post-partum, or had given birth in the past two years. FGDs were also planned with adolescent females under age 20 who had accessed ANC and given birth in the past two years. In Nasarawa State only, FGDs were also conducted with husbands of women who fit the recruitment criteria and had also accompanied their wives to ANC facilities.

Adolescents were included because they often have age-specific opinions about health care, and stigma regarding teenage pregnancy may prevent them from seeking health care at government facilities. It was also important to gather the views of male partners in a state such as Nasarawa, which has a large Muslim population, in light of the dominant and sometimes dictatorial role in men’s use of health facilities (Adewuyi 1999). These FGDs also aimed to capture men’s knowledge and perceptions concerning women’s adherence to the recommended two-dose course of IPTp-SP.

The FGDs were designed to gather data on pregnant and postpartum women’s attitudes and beliefs in relation to MIP and adherence to IPTp-SP—their understanding, perceptions, and motivations, as well as their ability to act and access appropriate care. Their knowledge and understanding of the severity and risks of MIP were examined, along with whether they had correct information about malaria signs and effective preventive practices and treatment. Their perceptions of whether others in the community had this information were also gathered, along with their choice of care providers, and perceived barriers and facilitators of adherence, including current socio-cultural and gender norms.

The IDIs were designed to elicit health care providers’ perceptions of their role in ensuring adherence; their knowledge of how malaria affects pregnant women and malaria signs and symptoms; and their detailed knowledge of IPTp, including the names of medicines, dosages, availability, and cost. The IDIs also sought evidence on institutional-level barriers to adherence, including stockouts and insufficient training. Questions also addressed MIP as a component of FANC, payment for medications, and incentives given to pregnant women for returning for the second IPTp-SP dose.
Study instruments and the analyses were based on a socio-ecological model and the multiple levels that influence or present obstacles to change (Fig. 1). It takes into account the individual, community, societal, and environmental contexts of behavior and social change, including cultural norms, traditions, and gender roles; personal, societal, and religious beliefs; and systemic, institutional, and environmental factors.

The study thus aimed to examine factors that may aid or impede the ability of pregnant women to act promptly and decisively to prevent and treat malaria: those related to individual personality and autonomy, including beliefs about malaria and the efficacy of modern medications; the influence of spouses, significant others, family members, neighbors, and others in the community; and systemic factors at ANC facilities, such as waiting times and attitudes of providers.

Methods

Ten study facilities were to be identified in each state: one tertiary facility, three secondary facilities, and six primary health facilities that provide ANC services. In Cross River, fieldwork took place in two Local Government Areas (LGAs)—Calabar and Yakurr—and in three LGAs in Nasarawa—Keffi, Karu, and Nasarawa. After a flood damaged one of selected primary health facilities in Nasarawa, it was replaced by General Hospital, Uke. This increased the number of secondary facilities in that state to four.

Three IDIs were conducted in each facility with providers: physicians, nurses, midwives, and community health extension workers who deal directly with pregnant and postpartum women. The number of FGDs depended on participant availability (Table 2). Most FGDs were conducted in rooms in these facilities; some were held in community centers, recreation halls, and schools.

Table 2. Facilities Selected for Fieldwork

<table>
<thead>
<tr>
<th>Cross River State</th>
<th>Nasarawa State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility</td>
<td>FGDs</td>
</tr>
<tr>
<td><strong>Tertiary</strong></td>
<td></td>
</tr>
<tr>
<td>1 University of Calabar Teaching Hospital</td>
<td>3</td>
</tr>
<tr>
<td>2 General Hospital Calabar</td>
<td>0</td>
</tr>
<tr>
<td>3 UNICAL Medical Centre</td>
<td>0</td>
</tr>
<tr>
<td>4 General Hospital Ugęp</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FGD participants who met the age criteria were recruited from among ANC clients in the selected facilities in rural and peri-urban areas. Husbands of women who met the study criteria were also recruited into two FGDs in Nasarawa (Table 3). Local leaders and chiefs assisted recruitment, using town criers to announce the study and invite participation. FGD participants received soft drinks and snacks; those who brought children could access childcare at the facilities.

Table 3. FGDs in Cross River State and Nasarawa State

<table>
<thead>
<tr>
<th>Cross River State FGDs</th>
<th>Location</th>
<th># FGDs</th>
<th># Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females less than age 20 who have given birth and attended an ANC facility</td>
<td>Rural</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Pregnant women ages 20–40 who attend an ANC facility</td>
<td>Rural</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Peri-urban</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Postpartum women ages 20–40 who have attended an antenatal facility</td>
<td>Rural</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Peri-urban</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Women ages 20–40 who gave birth in last two years and attended an ANC facility</td>
<td>Rural</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Peri-urban</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>170</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nasarawa State FGDs</th>
<th>Location</th>
<th># FGDs</th>
<th># Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females less than age 20 who have given birth and attended an ANC facility</td>
<td>Rural</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Pregnant women ages 20–40 who attend an ANC facility</td>
<td>Rural</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Peri-urban</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Postpartum women ages 20-40 who have attended an ANC facility</td>
<td>Rural</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Peri-urban</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Women ages 20–40 who gave birth in last two years and attended an ANC facility</td>
<td>Rural</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Peri-urban</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Husbands of pregnant, postpartum women ages 17–35 who gave birth in the last two years</td>
<td>Rural</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Peri-urban</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>190</td>
<td></td>
</tr>
</tbody>
</table>
Field workers attended a two-day training that covered subject selection and recruitment; instruments and techniques to use; facilitation and note-taking skills; and role play. They were trained to use a pre-tested discussion guide and other survey instruments that were translated into local languages—Efik, Lokarr and Pidgin in Cross River and Hausa in Nasarawa—then back translated to English.

FGD facilitators were of the same gender as participants and spoke the same languages. They administered informed consent forms that each participant and the parents or guardians of those under age 18 were required to sign before joining a FGD. Those who did not understand English were read the statement in the local language, and those who could not read signed with thumb prints.

Just before the FGDs, a short demographic survey questionnaire was administered to about half of the participants that covered basic demographic information, including occupation and estimated household income, marital status, number of pregnancies, attendance at ANC, and trusted sources of health information.

Data Collection, Data Analysis, and Quality Control

Audiotaped FGD sessions were transcribed and translated into English in the field to enable verifications and first-level corrections. The data were then cleaned, codes assigned to issues raised during discussions, and imported into Atlas ti Software for further analysis.

Quality control mechanisms were instituted at every stage, beginning with the recruitment process. Highly qualified and experienced fieldworkers were selected, and field managers in each state trained staff and managed the fieldwork. The project director ensured overall implementation, financial management, and accountability. Fieldworkers were required to test the recording equipment and work with note takers to capture nuanced participant comments reflective of social and environmental contexts. Audio recording back-up was provided to ensure minimal disruptions.

Study Limitations

Results from this pilot study may not be generalizable. Because it was localized in public and private health centers, the study engaged women who were already motivated to seek ANC services and aware of their importance.

Socio-Economic Characteristics of FGD Participants

Among FGD participants, 89 percent (n=123) reported they were currently or previously married, and 11 percent reported being single or never married. By state, 13 percent of Cross River respondents were single/never married, compared to 8 percent in Nasarawa. No divorced, separated, or widowed women were in the Nasarawa sample, while over 5 percent had this status in the Cross River sample.

Among all respondents (n=150), 69 percent had more than primary-level education: 48 percent had secondary-level and 21 percent had tertiary-level education. Participants in the Cross River sample had more schooling than the Nasarawa sample: 1 percent had no schooling, compared to 22 percent in Nasarawa, and 60.5 percent had secondary education, compared to 35 percent in Nasarawa. Education levels of participants were higher than the average reported for each state in the 2008 Demographic and Health Survey, when 41 percent of women in Nasarawa and 8.5 percent in Cross River reportedly had no schooling (NDHS 2008).
Three-quarters of the participants were in households with at least one income-earner, and 9 percent of the Cross River sample reported they were housewives, compared to 24 percent of female Nasarawa respondents. In both states, 47 percent of respondents said they were living comfortably on their present income (52 percent in Cross River and 42 percent in Nasarawa), while 36 percent of respondents in Cross River and 39 percent in Nasarawa said they were finding it difficult or very difficult to live on their present incomes.

**Access to Health Information**

Comparatively more Nasarawa respondents reported they had access to radios in the household (over 80 percent versus 61 percent), while more Cross River respondents said they had access to televisions (75 percent versus 65 percent). Overall, 84 percent said they listened to the radio at least twice a week, and 62 percent said they watched television daily.

Among respondents with access to these media, 90 percent said they could control which radio station they listened to and 83 percent said they could control the television channels they watched. In addition, participants mentioned the following radio stations in descending order of preference: BBC, Voice of America, Aso Radio, Wazobia FM, Ewonyi FM, Enugu Radio, Unity FM, and Abia FM. They expressed a preference for the national television station, the Nigerian Television Authority (NTA), followed by MB Mas and AIT.

When asked where they were most likely to get health information, about 72 percent said from health workers. In descending order, other sources mentioned were radio (63 percent), friends (49 percent), television (45 percent), and church or religious organizations and community events (25 percent).

**Reported Uptake of ANC Services and IPTp-SP**

Most FGD respondents indicated that they had been to an ANC facility during pregnancy, though a smaller proportion in the group under age 20 had done so. In both states, most respondents said they had gone for four or more ANC visits; some in Nasarawa had made over eight visits. (Reportedly, some had made more than 20 visits to the Tsohon Kasua primary care facility, for reasons that are unclear.) This number of visits is exhausting for these clients as well as for staff.

The commitment of most of the women in both samples to modern medicine and their capacity to access an ANC facility was never in doubt. Most have other options, such as private hospitals and clinics, and herbal medicine practitioners.

When asked about their motivation for visiting a government health facility for malaria services, most mentioned the need to maintain their health and that of their unborn babies. Some said that going to a government health facility was their way of ensuring their baby’s safety. As one rural FGD participant put it, “If we don’t have transport, we often walk to the health facility, no matter how far away we live.”

And in spite of expressed commitments to maintaining their own and their babies’ health, few FGD participants acknowledged that they had taken the two recommended doses of SP or said

---

2 The World Health Organization recommends a minimum of four ANC visits during each pregnancy. The first visit is expected to occur by 16 weeks, or when a woman first thinks she is pregnant; the second visit by about 24–28 weeks or at least once in second trimester; the third by about 32 weeks, and the fourth by about 36 weeks of gestation.
they intended to do so. This indicates a clear need for this study and for SBCC communication interventions that overcome barriers to IPTp-SP adherence.

3. Evidence from FGDs on Women’s Ability to Act on Prevention and Treatment

Understanding and Perceptions of Malaria and Prevention Methods

The study sought to ascertain the health literacy of FGD participants in relation to malaria—specifically the extent to which they had obtained, processed, and understood information about MIP and its risks, including symptoms, services, and approved medications and whether they could follow dosing instructions—in short, what they knew about MIP and their ability to act on perceived risks.

FGDs participants responded to questions on what causes malaria and how it is transmitted, since such perceptions often determine what steps are taken to prevent illness and decisions to seek care (see Orogede 2003). In both states, most participants referred to mosquito transmission and cited appropriate signs and symptoms, such as headache, fever, lack of appetite, weakness of joints, and vomiting:

“..Transferred by a female mosquito called anopheles mosquito.”

“When person get malaria the person dey feel hot, he get fever, at times he go vomit.”

“As she carry belle the malaria come enter him body all him legs, just dey white; he palms just dey white, like say person wey no get blood for body.”

A few noted that malaria may be the result of an attack by somebody. More frequently, participants linked malaria to a virus, exposure to the sun, infection from toilets, or drinking bad (impure) water and connected the presence of mosquitoes to unclean or dirty environments:

“As I understand the meaning of that malaria, malaria na sickness wey dey catch people, sometimes na through mosquito bite, sometimes na through water wey we dey drink. Bad water wey no fine, so when you take bad water and the bad environment dey cause us all this mosquito and malaria will attack you.”

“Leaving dirty things around the house causes malaria; leaving the toilet dirty, not washing and leaving dirty water around the house can cause malaria. Leaving unwashed plates or clothes can cause malaria; some people don’t tidy up their rooms.”

“If we sleep in the same room and the other person has a disease, mosquito can bite her and then come and bite me, which results to malaria.”

“I keep our environment clean, because sometimes it’s not even about the nets. You may sit outside resting and the mosquito will come and bite you. You keep your compound clean and all the grasses around you, you clear it, so that mosquito will not come to your

---

3 Translations from Pidgin are provided in footnotes and in quotes. “I understand malaria as a disease that affects people sometimes through mosquito bites, sometimes through unclean water that we drink, so when you combine unclean water with bad environment, this causes mosquitoes and malaria to attack you.”
compound because it is the next one. When you go to toilet, you wash your hands and you keep your toilet clean. That will prevent you not too have malaria.”

With the exception of one FGD in Cross River, all participants could name one or two proven malaria prevention methods, such as use of LLINs. In both states, participants cited insecticide spray and screened environments, though use of LLINs was not mentioned in four FGD sessions. A few FGDs reported on alterative net use:

“Less than 50 percent use mosquito nets; some use it as a curtain for their door.”

Increased room temperature and discomfort caused by LLIN use were noted, along with a dislike for sleeping under a net. No respondent mentioned indoor residual spraying and reducing exposure by wearing long-sleeved clothing, long pants, and socks in the evenings.

Many participants believed in non-approved prevention methods, including washing hands after toilet use, cutting grass, staying out of the sun, and keeping premises clean. To repel mosquitoes, participants mentioned using a local rat poison called otapiapia and burning fragrant or “scenting” leaves:

“You must take care of the food, and the water that you are drinking must be covered or boiled before drinking.”

“You will not waste too much time under the sun. When the sun is high you have to avoid the sun

“The only way to prevent mosquito from biting you is by being neat as a woman.”

“A friend of mine gave me some flowers to burn in a fire inside the house. The smoke will chase mosquitoes away or make them too weak to sting.”

**Understanding of Malaria Risk and the Need to Seek Care for MIP**

Some discussants referred to malaria as a cause of death and to community perceptions of its dangers:

“If you are infected, you may lack blood in your body and you may die.”

“Malaria kills faster than AIDS, so most of them are scared.”

While some women could not identify any danger to the fetus from MIP, most perceived dangers such as anemia, jaundice, miscarriage, pre-term birth, and stunted growth:

 “[The fetus] could die inside [the mother]. Because of the high temperature, the fetus will try to get out [and the mother] could suffer a miscarriage.”

“When the malaria affect the woman wey carry belle or the pregnancy wetin fit happen, give am be say the pikin inside womb no go stay reach nine months e go deliver am early, that is premature delivery.”

Very few participants in rural areas referred to receiving antimalarial drugs, LLINs, and rapid diagnostic testing with ANC services. Most did not perceive malaria prevention as a component of ANC, though a few did:

---

4 “When malaria affects a pregnant woman, the baby may not stay up to nine months in the womb.”
“We are given the treatment for malaria; that is why we are here for the antenatal.”

“Na to go checkup, any time wey them keep date for clinic na to go, any medicine wey them give you for hospital, na to take so that your pikin will stay alive.”

“You go register so that them go give you treatment, so that e no go affect the baby.”

“My own na to go for check up, get them drugs for helping there.”

“Taking the right medication. By taking the medication, this protects her and what she is carrying.”

Nearly all participants said they would advise a pregnant woman to go to a health centre for malaria medication and indicated they know women or girls who have had malaria:

“I will advise her to go to the health centre and register so that they will take care through injection and tablets that will help her.”

**Perceived Reasons that Others Do Not Go to Facilities for Malaria Treatment**

Ignorance was noted as one reason that others do not seek protection against malaria:

“A person may not go to hospital because she does not know; she may consider malaria to be a minor problem.”

“Sometimes it is lack of understanding of what causes it.”

Additional reasons reported for not accessing MIP care and ANC included beliefs that only the seriously ill go to a health facility; that pregnancy and delivery are natural and do not require hospital care; and that hospital care offers unwelcome exposure to complications as well as family planning messages:

“Maybe because they don’t feel sick (they do not go to hospital).”

“There is this woman I know, she said she doesn’t have problem with giving birth, so why would she go to the hospital for antenatal or delivery.”

“Some women believe that pregnancy and childbirth is a simple natural task and they think there is no need to go to hospital for that.”

“If you advise them to go for antenatal, they refuse; they prefer to go to hospital only when pregnancy is due.”

“Some don’t want to come because they think coming to the clinic will cause complication and some say because they talk to them about family planning and other things like that.”

“Many people prefer treatment to prevention. About 30 percent of people prefer to have malaria before they go to treat it.”

Another reason for not seeking care was the belief that only God offers protection:

“Some believe say whether dem take drugs or dem no take drugs, eh, God dey for them.”

“They say prayer will help them, that it is better to go to church than to come to the hospital.”

---

5 “We go for check-up on our given clinic days and we take any medicine given to us at the hospital so that our children will live.”

6 “Personally, I go for check-up and to collect drugs.”

7 “God will protect them whether or not they take medication.”
The curative powers of traditional, herbal medicines were also cited by some participants. Local herbs in Cross River called okon-a-tekor and yabulikponben are used to treat malaria, along with lemon grass and the leaves of dongoyaro (Neem), pawpaw, mango, lime trees:

“Some people have local medicine they use to prepare; they will just take it; that’s their own belief, sometimes our own belief we come to the hospital for test, then we discover what we have.”

“Before now, our forefathers had been taking it, and they must have been cured.”

“The traditional medicine cures sickness completely…”

“Some dey believe in traditional herbs, say e dey cure dem fast”

“Some even if they go (to the hospitals), they will not take drugs that was prescribed to them by a doctor; some will go for traditional herbalist.”

Some said that traditional remedies worked faster and were cheaper and more conveniently accessed. Some of these compared favorably to anti-malarial medicines that smelled bad, caused nausea and allergic reactions, and were “very big to swallow”

“Some of them are allergic to drugs so they don’t know.”

“My friend here dislikes oral medicine, so when she collects the medicine she will hide it under a pillow and later throw it away.”

“Some if they take it (antimalarial drugs) they vomit so they don’t take it.”

A few participants noted that traditional herbs involved unreliable dosages and regimens:

“I prefer this other one [medication from the health facility] because people more knowledgeable than I have prescribed it. As for traditional herbs, I may take them and have an overdose, as I don’t have somebody to coach me on how to take them.”

Mixing traditional and hospital medicines was said to be “good” by at least one respondent. Others reported that some traditional healers warned against mixing, and they admonished pregnant clients not go to a hospital for preventive care.

Understanding of Approved Antimalarial Medications and Two Doses of IPTp-SP

In nearly all FGD sessions, participants correctly identified the appropriate anti-malarial drugs used during pregnancy, including the SP brand names laridox and antimal.

Participants also mentioned chloroquine, which is not recommended for pregnant women. All participants in one FGD in Cross River identified coartem as the drug of choice for pregnant women, though it is not an SP and is mainly used for treatment, not prevention.

Some participants referred to the need to take two doses while pregnant:

“They have to give you twice before you put to birth, so if you have taken once, then definitely, you will have to come back…”

“They (the nurses) tell us to come back, that one dose is not sufficient... After this month, you come back another month to take the other dose.”

However, many demonstrated inadequate knowledge of how many doses to take, when to take them, and the recommended interval between doses:

---

8 “Some believe in traditional herbs, that they cure them faster.”
“There was this drug the nurse prescribed that pregnant women should take to prevent malaria, and we take it before delivery.”

“Well, we do not know when to take this medicine. Whenever we come to the clinic and they prescribed medicine for us they only tell us to take 3 times or 2 times. Since we have never been diagnosed with malaria, we don’t really know when.”

“The women who are registered here are given the drugs upon registration and again when they are six month pregnant, so that you are supposed to take two doses before childbirth.”

Only a few women knew how many tablets constituted the recommended dose or that three tablets were to be swallowed at the same time under the direct observation of a health provider:

“But some people have, it depends on your body system, I wanted to take the three tablets at once but somebody told me that I should not take the three tablets at once, that I should take one per day, so that was how I took my own”

“They instruct us to take the medicine in the morning, afternoon and in the evening, every day for the number of days they will tell us.”

They seemed unfamiliar with DOT, a practice compromised by stockouts in facilities. Many women noted that they had to take their prescriptions elsewhere to be filled:

“We get prescription from the doctor; we go and buy from the pharmacy.”

“At times if drugs are not available in the health facility, they do write (prescriptions) and give to us to go and buy in the chemist or pharmacy, but we don’t understand what they write.”

In these circumstances, providers could not observe women taking the medication or monitor their adherence.

**Willingness to Adhere to Instructions from Health Providers**

If they were experiencing malaria fever, most FGD participants said they would go to a hospital or clinic and take prescribed medications, if they could afford to do so. Barriers identified to taking these steps included lack of time and dislike of medication, as well as lack of money.

Respondents referred to the potential danger of patronizing “chemists”—possibly a generic name applied to patent-medicine vendors (at best) or quacks—instead of getting approved anti-malarial medicines from government health facilities:

“...You need to visit the hospital because if you consult chemists, you could be given overdose.”

The expressed willingness to comply with instructions from medical personnel presents a key entry opportunity to generalize the practice of IPTp-SP. FGD participants expressed trust in public health care facilities and indicated that they try their utmost to follow instructions on malaria medications from physicians, nurses, or midwives.

**The Role of Husbands in Facilitating or Presenting Barriers to Uptake**

That male partners influence the uptake of maternal health services has been well documented (Mullany et al. 2007). Men play an important economic role, including paying for transportation to and from health facilities, hospital services, prescriptions, and
recommended foods. Fewer women under 20 acknowledged the importance of husbands’ support, but women over 20 in both states referred to it frequently:

“Our husbands are very supportive if they notice any sign of malaria in pregnancy. They are aware that we can only get good treatment in hospitals, and they will not be able to concentrate on other things if our health is in trouble. He will always encourage me to go to the hospital to confirm the health of both the baby and the mother. They always support us with money for treatment so that we can give anytime such is required.”

“My husband supports me by giving me money to come to hospital. If he doesn’t give me the money I cannot come.”

“They (husbands) are responsible for all hospital costs, especially transportation and hospital bill for antenatal.”

“They are very supportive: 100 percent—in fact 150 percent” (laughter)

“They will tell us to go to the clinic to know how you and the baby are faring so that they may be rest assured that delivery will be safe.”

“They give us money to pay for lab test and medical bills.”

Beyond paying for services, some women said their husbands encouraged them to take their medications, reminded them of scheduled visits, and monitored their health:

My husband would say, “Show me the drugs prescribed. I am going to monitor that you take them.”

“Some do remind you of your next visit.”

“Maybe she took a drug and it did not work. He will advise her to go back to the hospital for more check-up so that she will get well again.”

“Sometimes they (husbands) offer advice; sometimes they offer support by giving transport money.”

“Like some husbands, after you come to the clinic and they give you drugs. He will persuade you take the drugs because he feels he cannot spend money and you will not take the drugs.”

Participants also testified that some husbands accompany their wives to the ANC facilities, and in some cases, almost literally carried their reluctant wives there:

“They took us to the hospital themselves.”

“Some husbands come with us.”

More FGDs in Nasarawa reported that husbands were very supportive of them seeking modern, medical care for malaria in pregnancy; only a few reported otherwise. Views expressed in Calabar were more varied, ranging from support to ambivalence, nonchalance, or hostility toward modern medicine:

“Some husbands support (their wives); some don’t support.”

“Lack of money, lack of interest, lack of support from husband.”

“While for some the problem is from the husband; they don’t give them money.”

“Some don’t want their wives to go the hospital even if they have the money.”

Impoverished men were less likely to encourage their wives to go to a health facility.
“Some of our husbands have no money to give us; some are very poor, and one cannot go hospital, even government hospitals, without money. So your only option is to stay at home with malaria and have faith in God to cure you.”

“They don’t take going to the hospital serious. Some husbands don’t want their wives to go to the hospital; they will say God will protect them.”

“They (some husbands) are very greedy, they don’t want to spend money, they say the traditional way is faster and refuse to bring the money to allow them come.”

In Cross River, a preference for traditional healers was cited, along with the belief in adhering to practices of parents and older generations who did not go to ANC facilities:

“Some, like my husband’s tribe dislike medicine; most of them do not like hospital. When they are sick, they patronize [a traditional medicine practitioner]. I had an experience three months ago and I was bleeding during pregnancy, my husband and his family took me [there].”

In Nasarawa, men who “practice these conservative religions” reportedly did not allow their wives to go to hospitals because they might be under the care of male health providers:

“Some of my friends will tell you that … their husbands will not allow them to go to hospital, especially these people that practice these conservative religions. They believe that when they (the wives) go to hospitals, men (male health providers) will attend to them, so they don’t want men to “look” at them, understand? So they don’t want men to “look” at their wives. These are some of the reasons why traditions affect some people.”

FGDs with husbands in Nasarawa State corroborated a range of attitudes and behaviors that facilitate or present barriers to uptake. Many discussions referenced cost of drugs and of transportation to access care that husbands were expected to cover:

“It depends on the money for that medicine, even if it is one million naira, provided you have the money, you just pay.”

“Encouragement—you have to encourage her in one way or the other, maybe you have to pay for the transport money to take her, make sure you remind her of the appointment even she forgot to take her drugs regularly.”

“We do give them money to go for the antenatal. If the facility is far, you also give her money for bike.”

FGDs with both women and men suggested that a pregnant woman has no alternative if her husband wants her to seek care in a health facility. Men were variously portrayed as the initiator, financier, advisor, and enforcer of this decision:

“You tell her to come to hospital for antenatal clinic and when she goes they will give her a net to protect her from the malaria.”

“I will make sure I collect the card for her then I will leave her with the doctors; I have done my part.

“The help is that we force them to come for antenatal.”

Ensuring that their wives take prescription medication was also seen by husbands as one of their duties, including by threatening violence:

“If they give them medications for pregnancy, then the husband makes sure she takes them.”

“Yes, you have to, because you have to force her before she takes the medication.”
If she has started going for antenatal, there are some routine drugs and, you know, women are very lazy in taking drugs sometimes. You have to force them, encourage them; sometimes you will say I will beat you, then they say yes.”

“If they give them medications for pregnancy, then the husband makes sure she takes them.”

You have to force her before she takes the medication.

Some husbands mentioned other kinds of support provided for their pregnant wives, such as assisting with household chores and ensuring they eat foods thought to be healthy:

“You know whenever a woman becomes pregnant, there are two to three things which the husband is supposed to be doing for her...Difficult work must be stopped, because anything that will touch her and what she is carrying inside her stomach; secondly she must take additional supplements.”

“Watermelons must be provided from time by time, and fruits like lemons, oranges, banana, because it helps the baby inside to make it grow well and be born well.”

Family and Community Influences on Uptake

The FGDs noted that parents and other family members of pregnant women sometimes do not encourage them to seek ANC in a health facility, especially if traditional approaches such as herbalists or native doctors were preferred. In other cases, family members and friends reportedly offered advice on choosing the right facility and encouragement to seek modern medical care:

“My mummy was of the opinion that teaching hospital is very good, no matter how good a private hospital is, it can’t beat the teaching hospital.”

“And at times your parent will see signs and tell you something is wrong.”

A trusted neighbor or friend might also be relied on to confirm malaria diagnosis. Some women might not go to a clinic unless such a person encouraged them to do so:

“It is not everybody that is sick that knows the type of disease, but neighbors confirm and explain the symptoms. People can take it as minor ailment and may not go to hospital until neighbors alert one to go.”

Friends or neighbors might pressure pregnant women not to skip appointments and to seek medical help when ill:

“Your husband might not be around, and if you didn’t come [to the ANC facility], they [the friend or neighbor] will ask you why.”

“A friend came to visit me. She saw how terribly ill I was. After two days, she came to visit me and she saw my condition had not improved. Therefore, she told me to seek medical attention or she will never visit me again. So, to me she was caring; that was why she advised me.”

Women also reported that friends shared good experiences about medical care and instigated companionable trips to medical facilities:

“Sometimes, some women came to my house to inform me that, they were given net and drugs free by the health producers, so it motivates me to go to the hospital.”

“If my friend wants to go to the hospital, she normally calls me and we go together.”

Other women attending ANC facilities provided significant collective support:
“Each time we come for antenatal care, we make new friends. Sometimes we talk about the facilities and the drugs; sometimes we encourage ourselves to take our drugs. A woman may say ah! They gave me malaria drug and I have not taken it, and another woman may say why have you not been taking it? Somebody might say I have not been taking my traditional herbs, and another person will say try to take them because they will help you. We encourage one another.”

Economic Barriers to Uptake

Though Cross River State purportedly provides free primary health care for pregnant women and children under 5, this is not the case in some facilities. Rural FGDs debated the point when a participant said she paid for services:

“This woman said she pays 100 naira, She’s the only one who pays (for malaria treatment).”

“They (health facility) do not charge us (for treatment of malaria); we were informed that the cost is borne by the government.”

“Sometimes they charge 500 (naira), sometimes 700. It depends on the case.”

As noted earlier, participants in men’s and women’s groups recognized that poverty is a major barrier to malaria treatment:

“Some people do not have money to buy drugs.”

“You see the money for this antenatal is not something big, but no matter how small an amount is, if you don’t have it is big!”

“Just as this man has said, some of them don’t have the money to send the women to the hospital that is why. Some again don’t send because of money for drugs. Please help us provide these drugs for free.”

If money no dey, you go sidon na, how you go do? You will manage it until God help you. Because when money dey, you no go even like to carry sickness sidon.”

The cost of food and transportation was also featured in the discussion:

“Some women, because they cannot afford the good food they were instructed to eat in the hospital, they do not come back.”

“We know the situation in Nigeria now. Our people most of them – 90 percent—cannot eat good food, three square meals; they are after food, not malaria medicine! Food!”

“Previously, before the fuel price hike, one trip (on a motorbike) was 30 naira, but now it is 50. Therefore it now costs us 100 naira for a return trip.”

Institutional Barriers to Uptake and Incentives to Return

Among non-monetary reasons identified by FGDs that are barriers to uptake of MIP services, rude health providers and long waiting times were noted most frequently. Reported waiting times were longer in urban settings and in secondary and tertiary facilities. A participant referred to being turned away after a long journey; others noted disparaging provider treatment after long waits:

9 “Without money, what can you do? You will sit until God helps you. Because when there is money, you will not like to sit (inactive) with your illness.”
“You fit reach for clinic, dem say make you come another day. You fit no get the patience, enter bush cut.”

Some (health staff) you will ask a question, they will be nagging at you.”

“If they (women) sometimes come with complicated cases, the hospital staff often show them their disapproval for using traditional medicines.”

Many rural participants did not consider transportation to be a problem, but those in peri-urban areas complained about the difficulty of getting to a tertiary facility, the time taken by the trip, and high cabs fares.

When asked about incentives to return to a facility, FGD participants referred to receiving drugs and effective care:

“Na the drugs way dem give us na him do us we still come back again.”

“They gave me medicine; after I took the medicine I became well, that motivates me to come for the second time.”

Health extension workers and midwives also referred to other commodities received by pregnant clients:

“We give them drugs and mosquito nets free.”

“We go out for mobilization and give free drugs and net to them.”

“We give them delivery packs, some supplied by the Governor’s wife, called ‘mama kits.’ They contain two gloves, razor blade; suction tube, two tablets of baby soap, cord clamp, and a baby receiver to motivate then to keep coming to the facility.”

One provider noted that the practice of giving material incentives is not always problem-free:

“Like these nets we give to them is a kind of motivation to them. When you don’t give them these nets, when they come to the clinic most of them will say, I will not come to your clinic again; I will go to another clinic where they will give me nets. Most of them think that when there is dust on that net, the one that they have been using, it will affect their health.”

4. Evidence from IDIs on Barriers to Uptake

Information was gathered from the health providers interviewed for this study on how many cases of malaria in pregnancy were seen in their health facilities on a daily basis. At smaller facilities, the answer ranged from one to four, and was as high as 30 in a week at secondary and tertiary facilities. The health providers recognize that these numbers represent the tip of the iceberg.

Providers also testified that facilities exact fees for services. User fees of N350–N2000 were reportedly charged by secondary and tertiary facilities in both states.

---

10 You may get to the clinic and be sent back and asked to return another day. You may lose patience and go into the bush to cut the medicinal leaves to treat yourself with.

11 “We come back because of the medication they give us.”

12 The number of malaria cases is seasonal; more occur in the rainy season between March and October.
Gaps Relating to MIP Knowledge and Malaria Case Management

Most health care providers interviewed correctly identified signs and symptoms of malaria, including headache, fever, loss of appetite, chills, general body weakness, vomiting, and abdominal discomfort.

Nearly all agreed that malaria is dangerous for a woman and her fetus:

“Malaria affects pregnant women because their immunity is low since their red blood cells are being destroyed. The susceptibility to malaria is high. The pregnant woman who has malaria will also become anemic. When there is malaria, food transport through the placenta is affected, and this will invariably affect the child at birth.”

“Malaria affects pregnant women in different ways. It can affect the pregnant woman on her own and it can affect the baby too. For the woman, it can lead to anemia and for the baby it can lead to preterm labor. In early pregnancy for the baby, it can cause intrauterine growth retardation.”

“At the end of the day if it is very serious, the mother may give birth to an underweight fetus; the baby can come out even with terrible anemia.”

Providers in Cross River seemed more knowledgeable about the effects of malaria on mother and fetus than their counterparts in Nasarawa, perhaps reflecting less experience with malaria or generally lower socio-economic conditions in the state.

All IDI participants identified two or more antimalarial drugs, including ACTs, SP, and quinine. However, nearly all of them mentioned one or two incorrect drugs, including chloroquine, which is contraindicated during pregnancy:

“We treat according to their gestation. In the first trimester of pregnancy we are taught to use quinine tablets. At the second trimester you give ACT and then report any cases of complicated malaria to a higher level of care.”

“We also use IPT using fansidar and laridox, which belong to SP class.”

“Coartem is used for the treatment of malaria in children, while antimal and laridox are used for the treatment of malaria in pregnancy.”

Incorrect information on malaria case management and dosages was conveyed during interviews:

“Presently it has been prescribed that these ACT be given to pregnant women. Sometimes the administration of the drug differs based on the condition of the woman. For example, you can take the three tablets, which are for a start. For some women, they are given two tablets to start and one to complete the dose.”

“They can take the Artesunate Lomenfantrin when they are pregnant…. They can take it when the malaria is severe and the pregnancy is advanced, if not, it can lead to abortion. It also depends on the prescription, we have tablets and injection. Tablets we administer orally: 300mg three times a day and single tablets a day or five for each day.

“Paludrine is important in pregnancy. Camoquin is safe in pregnancy….Some are given chloroquin then daraphine to prevent malaria. They are very cheap like a full dose of daraphine is about N500–N1000. Choloroquin in high doses prevents malaria…. Some will say don’t administer chloroquin but I know for sure that paludrine and camoquin are very safe for pregnant women.”
No interview respondent mentioned obtaining malaria diagnostic tests. This suggests that malaria diagnosis is still presumptive. Most listed ACT (or coartem) as a preventive drug for pregnant women, though it is mainly used for treatment.

Health care providers do not appear to have received adequate training in correct dosage and case management of MIP. When asked to state how they administer anti-malarial drugs, none mentioned DOT or other approved steps. When asked if IPTp was administered by direct observation or during home visits, the reply was often negative. One noted that the practice of home visits had been discontinued:

_We did it before seriously, because then we had some free drugs to give them, but for now there is no more free drugs. Even though we go to their place, they always ask us, “You only come to make noise; you will not give us anything?”_

Many of these statements suggest that focused training is needed to improve malaria case management in health facilities.

**Insufficient Training**

IDI participants indicated they had attended training on at least one of the following areas: use of rapid diagnostic test kits for malaria; IPTp-SP; malaria case management, and interpersonal communication. Though malaria prevention and control is a component of ANC, IDI findings suggest that this is not recognized in the training offered to providers.

While many respondents said they heard of FANC and knew of people who had been trained in this area, they had not had that privilege. No respondent in Nasarawa who attended training on malaria prevention and case management attended any training on FANC. Though one midwife (at Calabar General Hospital) said she had attended FANC training two years earlier, most had not attended such training, and several had not heard of FANC:

_“I trained as a midwife, and have not heard about focused antenatal care.”_

_“I have not been trained, I have not heard of FANC.”_

Participants expressed considerable interest in attending FANC training:

_“This focused antenatal training, I think we need it, because it will enhance our own work here, really.”_

_“Focused ante-natal care: I have not heard that one, but if something like that can be organized I will attend. There are probably some new trends in the treatment of malaria in pregnant women that I need to be aware of which I am not, and probably this is a new program, probably different from the training I have obtained in the past, and then any other workshop that will be of use to me as a midwife, that will help me and improve my own service to the pregnant woman.”_

While a few practitioners reported they had attended workshops led by experts on new modalities, many providers—especially in Nasarawa—said they had not received any recent training on MIP:

_“I have never attended a training to update myself...Any training on the prevention and control of malaria in pregnancy [would be appreciated] because I will feel complete when I am well equipped with knowledge.”_

Health facility staff they needed more training, and many had requested it:

_“Trainings in these areas are necessary and should be more often to update knowledge and boost treatment therapies. I have never had a training concerning malaria. We need
Some referred to workshops and seminars they had attended, including a training organized by the MAPS Project deemed very useful by a physician:

“The recent training I had from MAPS on the use of LLIN has impacted so much on me. Before, some had this notion that the LLIN has chemical on them; they were using it as curtains. It helped me convince them of the importance of using the net and how to use it.”

IDI findings suggest that updated training on MIP is disconnected from FANC and insufficient synergy exists between state malaria control programs and the Ministry of Health’s reproductive health programs. Strong coordination is required so the two units harmonize their training workplans and promote the teamwork needed to impact the health system and improve the lives of mothers and children in Nigeria.

Stockouts

Providers in nearly all facilities in Nasarawa said they prescribed drugs that patients purchased outside the facility, mainly because of stockouts:

“We normally ask them to go and buy.”

“If it is only the artesunate, I would just write for them to buy.”

While Cross River health facilities can sometimes alleviate supply problems by buying essential drugs and charging patients, facilities in Nasarawa either could not afford to buy drugs or their clients could not afford to buy drugs from them. As one midwife put it:

“No, we don’t have them. It’s only before, in the last year, they (government) brought us SP; as they gave us free, we give them free. And here in the community, if you buy something and ask them for the money, they will be complaining. So I don’t need to buy. I only write it (prescription) for them.”

This suggests that providers in Nasarawa facilities do not control the prescriptions they write and do not know whether patients adhere to directions. The following responses were given when asked to estimate the proportion of their clients who purchase the anti-malarial drugs that are prescribed:

“Let me say 40 percent of them.”

“It depends on what they can afford.”

“They purchase it, but we don’t know if they really take it.”

Providers sometimes reported that SP and other commodities might be freely available at their facilities, but ACTs might be out of stock for two or three months. According one of the physicians interviewed, such stockouts were due to “the government’s lack of political will.”

Providers in only one health facility in Cross River reported that most of the required malaria commodities were available. (Some providers in large facilities were not sure, since these keep drugs in pharmacies or stores.) Providers also indicated that malaria commodities were available only when supplied by development partners, such as Africare and SunMAP.
5. Conclusions and Recommendations

The significant gaps between ANC attendance and uptake of IPTp among pregnant women in Cross River and Nasarawa noted in Table 1 were confirmed by in-depth-interviews with providers as well as in FGDs. Among factors identified in this study that contribute to these gaps are insufficient frontline health care provider training and experiences in focused ANC that integrates malaria prevention and treatment. Stockouts are another important factor in many provider settings, but are more acute in rural communities.

Barriers to IPTp Uptake

Knowledge gaps: Though most FGD participants demonstrated relatively good knowledge of malaria signs and symptoms and preventive methods, many linked malaria to unclean environments, staying in the sun, and consumption of bad water and bad food. Many FGD participants did not have correct information on medications that treat and prevent malaria. Some placed a premium on non-approved methods, such as use of traditional herbs.

Recommendation: Though FGD participants indicated they had received information about malaria during ANC visits and from community health workers, communication programs evidently need to do more to ensure wide dissemination of correct information on causes of malaria and its signs and symptoms. Information of the risks of MIP, including deleterious effects on a fetus, may serve as a good entry point.

Communication programs also need to do more to promote the benefits of LLINs, IPTp-SP, malaria case management, and the links between ANC and malaria services. Doing this may encourage pregnant women to increase demand for commodities such as LLINs during routine ANC visits and present themselves for the second dose of IPTp-SP.

Insufficient provider training on MIP: IDIs with ANC providers in the two states revealed the urgent need for more training in early diagnosis and MIP case management, including on specific training on IPTp-SP—dosage, spacing, timing, and DOT. Many providers expressed the wish of have this training and regretted its absence. ANC providers who lack this training and knowledge waste the best opportunity to provide IPTp-SP to pregnant women.

Recommendation: Provision of more training for ANC frontline workers would foster the tripod approach to MIP: correct use of LLINs, correct administration of IPTp-SP, and improved case management.

Insufficient service integration: Many facilities selected for the study do not appear to offer FANC, suggesting there is insufficient synergy between state malaria control programs and federal reproductive health programs.

Recommendation: Strong coordination is needed to harmonize the training work plans of these programs and promote the teamwork required to improve the health system and the health of women and children in Nigeria. In addition, there is need to improve provider knowledge to offer IPTp-SP during ANC visits and link pregnant women to treatment.

Long waiting times; disrespectful provider attitudes: Long waiting times and disrespectful attitudes by facility staff discourage pregnant women from seeking malaria services—barriers more evident in tertiary and secondary facilities in peri-urban locations.

Recommendation: Long waiting times for clinic clients are institutional barriers that depend on a balance of available providers and client volume. Training for providers on patient
communication and services that respect the dignity of their clients is needed. This training might be included in provider orientation.

**Stock outs and costs of malaria drugs:** Stockouts appear to be more acute in clinics in Nasarawa State than in Cross River State. Providers in Nasarawa report prescribing malaria drugs for patients to purchase outside their facilities, mainly due to stockouts, while those in Cross River report some efforts to alleviate problems with drug supply. The cost of prescription drugs serve as another barrier. Though malaria medications are supposed to be provided free of charge, this is not the case in some facilities. Inability to pay may prompt pregnant women experiencing financial strain to seek care from herbalists or cheaper medications from non-approved providers.

**Recommendation:** The federal government and international development partners must work together to assure adequate supply of malaria commodities as well as efficient and timely distribution to areas reporting shortages.

**Facilitating factors**
In spite of these barriers, FGD participants expressed great trust in their health facilities. Most seem to try their utmost to follow any instruction by physicians, nurses, or midwives on LLIN use and malaria medication. This is an important entry for generalizing the practice of two doses of IPTp-SP.

The FGDs indicates that the support of husbands or partners as well as community members is often a key factor. Communication programs should not undervalue this support and engage everyone who influences the ability and willingness of pregnant women to access malaria prevention and treatment services.

Communication programs need to mobilize communities as a whole, rather than seeking to change individual behavior in piecemeal fashion and hoping for “trickle-down” or “trickle-up” effects (Higginbotham, Briceno-Leon, and Johnson 2001).

While education on malaria prevention and treatment are important components of ANC, overworked providers who lack updated training cannot provide it. Instead, what is required are systematic communication interventions that are culturally compelling, not merely culturally appropriate—interventions that engage local communities and nestle within their social and ecological landscapes.
6. References


