

## Successes and Challenges for Malaria in Pregnancy Programming: A Three-Country Analysis

Throughout sub-Saharan Africa, malaria in pregnancy (MIP) programs are at a crossroads. Although many countries have made important strides toward their broader goals, most are still far from achieving the 2010 Roll Back Malaria (RBM) Initiative and President's Malaria Initiative (PMI) targets for intermittent preventive treatment in pregnancy (IPTp) and insecticide-treated bed net (ITN) coverage among pregnant women (RBM, 80%; PMI, 85%). As countries continue scale-up of MIP interventions, they might benefit from specific tools that help to identify and overcome programmatic bottlenecks. This brief provides ministries of health (MOHs), donors, and malaria and reproductive health implementing partners with a synthesis of lessons learned in MIP programming in three relatively high-performing countries—Malawi, Senegal, and Zambia—highlighting best practices and successful strategies that can be applied to other malaria-endemic countries throughout Africa.

### MIP Indicators at a Glance

| INDICATOR   | MALAWI<br>(2010 DHS,<br>2010 MIS) | SENEGAL<br>(2005 DHS,<br>2008/9 MIS) | ZAMBIA<br>(2007 DHS, 2008 MIS) |
|---|-----------------------------------|--------------------------------------|--------------------------------|
| Percentage of pregnant women who receive two or more doses of IPTp for malaria prevention | 60.3%                             | 52.2%                                | 60.3%                          |
| Percentage of pregnant women sleeping under an ITN  | 35.3%                             | 28.5%                                | 43.2%                          |
| Percentage of households with at least one ITN  | 56.8%                             | 63.3%                                | 62.3%                          |
| Percentage of pregnant women attending at least one ANC visit                             | 96.5%                             | 91.1%                                | 93.7%                          |
| Percentage of pregnant women attending more than one ANC visit                            | 94.9%                             | 87.3%                                | 94.3%                          |

Despite the range of surveys that collect data on IPTp and ITN coverage, the reasons that MIP programs in most African countries are not achieving their targets are still not fully understood. Linking, reviewing, and analyzing MIP-related data in combination with qualitative analysis is critical to developing a better understanding both of implementation bottlenecks, successes, and lessons learned and of how to move MIP programming to the next, more successful level. Recent data collected through Demographic and Health Surveys (DHS) and Malaria Indicator Surveys (MIS) show that Malawi, Senegal, and Zambia are high

### Key Areas of MIP Programming

- Integration
- Policy
- Commodities
- Quality assurance
- Capacity building
- Community awareness and involvement
- Monitoring and evaluation
- Financing

performing with respect to MIP indicators and thus are likely to have applied successful strategies that could potentially be adapted and replicated in other malaria-endemic countries. With support from the PMI, MCHIP conducted country case studies from 2009 to 2011 to gain a more detailed understanding of MIP programming.

The case studies were compiled using a desk review of secondary data sources and stakeholder interviews designed to gain insights into:

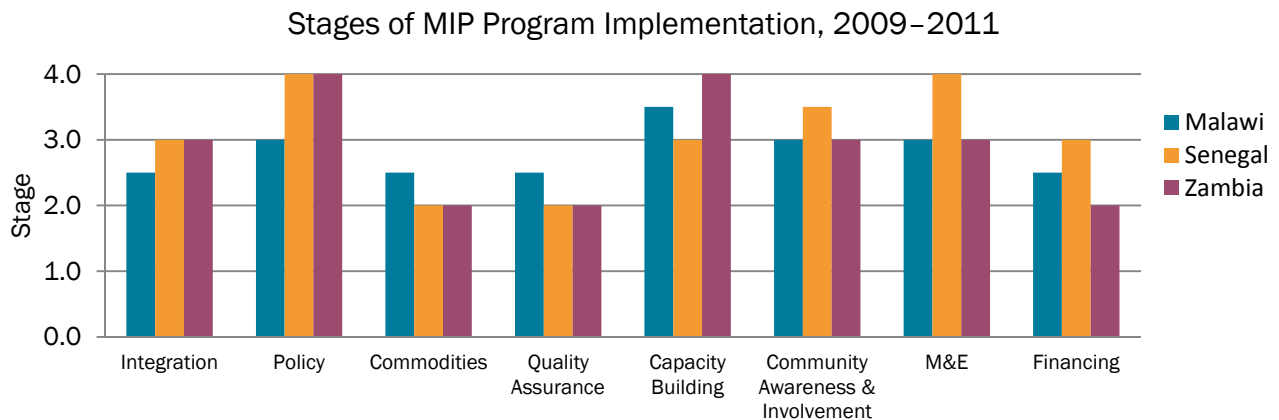
- Promising practices/strategies that have supported MIP programming success;
- Existing bottlenecks in MIP program implementation and how these are addressed; and
- Lessons learned that could be used to inform future MIP programming.

The case studies were analyzed using the MIP implementation framework developed by USAID's Malaria Action Coalition. The framework should enable country stakeholders to make better use of existing MIP-related information based on eight key areas of programming. MIP program readiness in each area is assessed based on four stages of implementation:

- Stage 1 – Starting: little to no implementation
- Stage 2 – Initial stages of implementation
- Stage 3 – Advanced level of implementation
- Stage 4 – Scale-up

### STATUS OF MIP PROGRAM IMPLEMENTATION

In applying the framework to each of the eight program areas, key themes were identified in the three countries in relation to best practices that have furthered MIP program implementation and challenges that have hindered the achievement of MIP goals. The most significant challenges were found in the areas of commodities, quality assurance, and financing. These challenges must be addressed in order to achieve MIP targets.



## Integration of Programs and Services

Essential to the success of MIP programming in all three countries has been the integration of MIP interventions into focused antenatal care (FANC) services at the facility level. With more than 90% of pregnant women making at least one ANC visit and the majority of women making two or more visits, ANC provides an important platform for delivering MIP interventions—IPTp and ITNs, in particular. However, the strength of integrated planning and implementation across central-level MOH units, including reproductive health (RH), national malaria control programs (NMCPs), and HIV/PMTCT, is variable. Weaknesses are largely the result of MOH human resources constraints, the perception of other units as competitors for funding, and a lack of emphasis on program integration by MOH leadership. While weak central-level program coordination has not prevented integration of services at the facility level, it can contribute to programmatic redundancies and the inefficient use of and gaps in resources.

## Policy Processes

MIP policies have been effectively translated into national service delivery guidelines for reproductive health and incorporated into pre-service education and in-service training in all three countries. In Malawi, discrepancies have been identified between RH and malaria control guidelines, indicating the need for MOH RH units and NMCPs to harmonize MIP policies in order to ensure standardization of care. Although guidelines are available at the central level in each country, they have not been disseminated effectively to all health care providers; nor have orientations to the guidelines been conducted extensively. Thus, use of and adherence to the guidelines can be weak.

## Commodities

WHO-recommended medicines for malaria are approved and available, and ITNs are provided through ANC clinics. However, stock-outs of sulfadoxine-pyrimethamine (SP) occur frequently at ANC clinics due to central-level stock-outs and ineffective distribution systems. This problem is exacerbated by the irrational use of SP to treat malaria cases in the general population. Distribution of ITNs to pregnant women free of charge (in Zambia and Malawi) is considered an effective mechanism for increasing their use and incentivizing ANC attendance, when ITNs are available. As with SP, however, facilities often experience ITN stock-outs due to central-level shortages and distribution gaps. All three countries have implemented or will soon implement universal ITN coverage campaigns to increase the use of nets by the general population and supplement efforts targeting pregnant women and children under five.



## Quality Assurance

The quality assurance (QA) systems in the three countries officially include routine supervision visits and performance assessments at the district and facility levels. Tools, including MIP-specific performance standards, have been developed for this purpose. However, due to a lack of funding and competing responsibilities among MOH staff tasked with conducting assessments and supervision, comprehensive QA systems are not currently functioning in any of the three countries. Although partner support is provided for some supervision activities, the overall lack of emphasis on QA in MIP programming compromises the sustained impact of investments in pre-service education and in-service training.

## Capacity Building

Because MIP guidelines are included in the pre-service education curricula for clinical health care providers, in-service training focuses on evidenced-based updates and maintenance of relevant and important MIP competencies. In-service training materials for FANC, PMTCT, and malaria case management also include MIP guidelines, thereby promoting integration of services. More coordination between the RH and HIV units and NMCPs would help to better manage the time providers spend at off-site trainings and ensure that supervision of trainees focuses on eliminating gaps in performance. Alternative capacity-building strategies, such as on-the-job training and mentorship, which could contribute to better training outcomes, are currently underutilized.



## Community Involvement

Community health volunteers/workers are actively involved in education and mobilization for FANC and MIP, and are viewed as playing a key role in promoting ANC attendance and the use of ITNs. Community campaigns that include both education and active assistance with hanging ITNs are considered key to increasing ITN use both by pregnant women and by the general population. Community health worker support and participation in the provision of facility-based services has relieved some of the burden on clinical providers. Although donors are increasingly devoting funds to community-based programming for the purposes of consistency and sustainability, more strategies are needed to generate resources from within target communities.

## Monitoring and Evaluation

All three countries track MIP indicators through a variety of sources, including household surveys, the routine health management information system (HMIS), and (less reliably) sentinel site surveillance. Facilities routinely collect and report data on IPTp dosages to the HMIS, where it is aggregated into national indicators. Two WHO-recommended MIP indicators—the percentage of antenatal care staff trained in the control of MIP in the past 12 months and the percentage of screened pregnant women with severe anemia in the third trimester, by gravidity—are notably missing from national-level data sources in all three countries, although data on anemia is recorded in some form at the facility level. Information on ITN distribution through ANC is currently absent from national data collection tools in Zambia and Malawi; instead, it is collected on parallel, program-specific reporting forms. In Senegal, ITN indicators have been integrated effectively into the HMIS. HMIS data quality in Zambia and Malawi is weak, but in the past several years Senegal has taken significant steps to alleviate this problem, including hiring new staff and establishing a web-based data management system. In all countries, more support is needed to promote the use of data for decision-making.

## Financing

All three national governments commit some funds to MIP programming, but they still rely heavily on donor support. The Zambian and Senegalese governments provide all of the funding for SP, with central-level shortages reportedly due more to poor quantification than lack of funding. The countries rely entirely on donors, primarily the Global Fund and the PMI, for ITNs, and this has proved insufficient to cover all pregnant women. While the sector-wide approach (SWAp) has been effective for coordinating donor support in Malawi, lack of accountability for funds provided directly to the government has hindered contributions to the basket fund. Delays in receipt of Global Fund monies in Zambia and Malawi have further hindered program implementation. Currently, the Zambian government cannot receive Global Fund monies due to ongoing issues of corruption.

## RECOMMENDATIONS

Although all three countries are achieving some successes in the areas of policy, capacity building, community interventions, and monitoring and evaluation, analysis using the implementation framework demonstrates that bottlenecks in these and the other key areas continue to hinder programmatic scale-up and attainment of MIP targets. Because the key areas are interdependent, progress (ideally to Stage 4, scale-up) must be made in all areas in order to achieve a holistic and effective MIP country program.







In response to the identified bottlenecks, the case studies outline recommendations specific to each of the three countries. Key, cross-cutting recommendations include:

- **Promote integration and coordination of RH, HIV, and malaria control programs through MIP working groups.** The reestablishment and strengthening of MIP working groups can serve as a forum for ministries of health, donors, and implementing partners to share technical and programmatic expertise; harmonize MIP service delivery guidelines across health sectors; track and plan in-service training of providers; leverage funds for integrated supportive supervision and performance assessments; and promote collaboration, rather than competition, between MOH health units and implementing partners in order to reduce programmatic redundancies and stretch resources. Further, reestablishment and strengthening of MIP working groups will help to reinvigorate and reprioritize MIP programming, which is critical to success. There is a particular need for RH and malaria control programs, as well as HIV programs, to work together to review the barriers to achieving target goals for IPTp uptake (e.g., inconsistency in guidelines, misunderstanding of guidelines among health workers, lack of supplies, and SP stock-outs) and ITN coverage (e.g., distribution points and stock-outs) and to build on what is already working successfully.
- **Advocate through MIP working groups and other fora to ensure consistent stocks of SP and ITNs at ANC clinics.** IPTp and ITNs are the cornerstones of MIP programming, and ministries of health must convene stakeholders to take aggressive steps to identify reasons for and mitigate stock-outs. Such steps may not require new interventions, but rather the altering and strengthening of current activities related to commodity quantification, logistics management information systems, data management, and quality assurance.
- **Increase support for community initiatives to overcome barriers to care-seeking.** Ministries of health and donors should dedicate increased resources to community-directed activities that raise awareness of the importance of FANC and MIP services, bring services closer to the household, and strengthen the link between communities and facilities. Institutionalization of and support for community health extension workers and targeted interventions, such as community-based agents who demonstrate and assist with proper hanging of ITNs in households, can help programs overcome the simple but significant barriers to implementation of malaria prevention strategies. Additional support for interventions such as increased outreach clinics and/or development of community transportation systems could help countries overcome the continual and oft-cited

barrier of distance to service delivery points. Recognizing that health starts in the family within a community, engaging communities early on to promote healthy practices during pregnancy (i.e., attending ANC at least four times beginning in the first trimester and using IPTp and ITNs) promotes care-seeking behavior and enables pregnant women to demand needed services, including MIP prevention, throughout pregnancy.

- **Dedicate increased resources to strengthening existing M&E systems and integrate data management and data use for decision-making into pre-service education and in-service training programs.** Efforts toward this objective should be three-fold: (1) strengthen facility-level data collection and reporting, (2) build district-level skills in using data for decision-making, and (3) incorporate WHO-recommended indicators into the HMIS and/or household surveys. In order to strengthen facility-level data management in situations where human resources are lacking, data collection and management and the process and importance of the HMIS system should be incorporated into all pre-service education and in-service trainings for clinical and support staff. MOH program and technical officers, as well as HMIS staff, should be trained in the art of data management supervision and the use of data for decision-making (e.g., using data to advocate for and direct resources). As the system is strengthened, the remaining WHO indicators related to anemia in pregnancy and the number of staff trained in the control of MIP should be added to the system.
- **Promote capacity-building strategies, including strengthened pre-service education, on-the-job-training, mentorship and supervision, and group-based in-service training.** In lieu of or in addition to providing off-site in-service training, ministries of health and stakeholders should consider the cost-effectiveness of investing in alternative capacity-building strategies, such as strengthening pre-service institutions; offering district- and facility-level on-the-job training, mentorship, and supervision; and developing infrastructure. Because such interventions might take longer to reach large numbers of providers, ministries and donors will need to lead the way in aligning program targets with new strategies. For all training models, e-learning technologies such as online and CD-ROM-based courses can supplement and reduce the time required for training by external mentors.
- **Strengthen quality assurance systems.** Quality assurance, including performance assessments and routine supervision, requires greater emphasis in order to maximize inputs into the other MIP program components. Greater collaboration between quality assurance units, NMCPs, and RH and HIV units is



needed in conducting performance assessments and using assessment information to augment and more efficiently target supervision to address program and service delivery gaps. The challenges of routine supervision, which may include a lack of human resources, a lack of funding for transport, and a lack of supervisors with adequate skills, add to the importance of investing in quality assurance efforts that complement ongoing supervision and give on-site managers and providers the ability to monitor and improve performance. Such investments also could create opportunities to leverage funding across programs, allowing for more frequent visits.



## NEXT STEPS

With specific challenges now identified in Malawi, Senegal, and Zambia and recommendations for progress made, it is up to MIP stakeholders to determine if and how they will work to overcome the remaining issues. Implementing the recommendations will require strong and consistent leadership from ministries of health in order to coordinate donors and implementing partners and target resources toward key interventions. Many of the lessons learned are likely to apply to other malaria-endemic countries and can be used to inform programming. Ministries of health may find it useful to conduct their own country analyses using the MIP implementation framework and to formulate comprehensive country case studies. The framework can be applied through a collaborative process among MIP stakeholders and in routine malaria and reproductive health program reviews. Although many obstacles remain in eradicating malaria and malaria in pregnancy, lessons learned thus far demonstrate that the obstacles are not insurmountable and that the PMI and RBM goals for IPTp and ITNs are still within reach.

## RECOMMENDATIONS FOR FURTHER READING

ACCESS/Jhpiego, *Malaria in Pregnancy Resource Package*  
(<http://www.jhpiego.org/files/malialrp/index.htm>)

Maternal and Child Health Integrated Program, *MIP Country Case Studies*  
([http://www.mchip.net/Documentation\\_and\\_Dissemination](http://www.mchip.net/Documentation_and_Dissemination))

World Health Organization, *A Strategic Framework for Malaria Prevention and Control during Pregnancy in the African Region*  
([http://whqlibdoc.who.int/afro/2004/AFR\\_MAL\\_04.01.pdf](http://whqlibdoc.who.int/afro/2004/AFR_MAL_04.01.pdf))