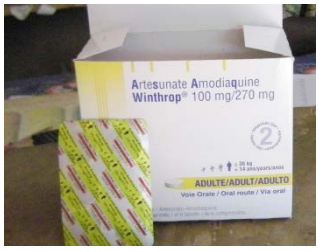
Review of National-Level Malaria in Pregnancy Documents in 19 PMI Focus Countries



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The Maternal and Child Health Integrated Program (MCHIP) is the United States Agency for International Development (USAID) Bureau for Global Health's flagship maternal, neonatal and child health (MNCH) program. MCHIP supports programming in maternal, newborn and child health, immunization, family planning, malaria, nutrition, and HIV/AIDS, and strongly encourages opportunities for integration. Cross-cutting technical areas include water, sanitation, hygiene, urban health and health systems strengthening.

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Acronyms and Abbreviations

ACT	Artemisinin-based combination therapy
AL	Artemether-lumefantrine
ANC	Antenatal care
AS/AQ	Artesunate-amodiaquine
BCC	Behavior change communications
BEmONC	Basic emergency obstetric and newborn care
CTX	Cotrimoxazole
DOMC	Division of Malaria Control
DOT	Directly observed therapy
DRC	Democratic Republic of the Congo
DRH	Division of Reproductive Health
EmONC	Emergency obstetric and newborn care
EPI	Expanded Program on Immunization
FANC	Focused antenatal care
HIV+	HIV positive
IEC	Information, education, and communication
IPTp	Intermittent preventive treatment in pregnancy
ITN	Insecticide-treated mosquito net
IV	Intravenous
MCHIP	Maternal and Child Health Integrated Program
M&E	Monitoring and evaluation
MIP	Malaria in pregnancy
MNH	Maternal and newborn health
MOH	Ministry of Health
n/a	Not applicable
NMCP	National Malaria Control Program
PMI	President's Malaria Initiative
PMTCT	Prevention of mother-to-child transmission
QI	Quality improvement
RDT	Rapid diagnostic test
RH	Reproductive health
SP	Sulfadoxine-pyrimethamine
TB	Tuberculosis
TWG	Technical working group
WHO	World Health Organization

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INTRODUCTION

The devastating consequences of malaria in pregnancy (MIP) are well documented and include higher rates of maternal anemia and low birth-weight babies in areas of stable malaria transmission. In areas of unstable malaria transmission, pregnant women are at increased risk of severe malaria and death. The incidence of spontaneous abortion, low birth weight, and perinatal death also increases. The MIP strategy of the President's Malaria Initiative (PMI) supports the World Health Organization's (WHO's) recommended three-pronged approach for managing MIP, which includes promotion and distribution of long-lasting insecticide-treated mosquito nets (ITNs)[1,2] to pregnant women, intermittent preventive treatment of malaria during pregnancy (IPTp) with sulfadoxine-pyrimethamine (SP), and prompt diagnosis and effective treatment of confirmed malaria and anemia cases in pregnancy.

Among the 19 PMI focus countries in sub-Saharan Africa, there has been steady progress in achieving the PMI target of 85% coverage of long-lasting ITN use among pregnant women; however, limited progress has been made in achieving the PMI target of 85% coverage of two doses of SP (IPTp2). While some countries, including Ghana, Liberia, Malawi, Senegal, and Zambia, have achieved higher coverage of IPTp uptake, and Benin, Kenya, Madagascar, Malawi, and Tanzania have relatively high levels of insecticide-treated mosquito net (ITN) coverage among pregnant women, use of these interventions across sub-Saharan Africa is generally low (Table 1).[3] Across Africa, over 70% of women make two or more antenatal care (ANC) visits during their pregnancy, sufficient to receive IPTp2, yet only 21% of women receive IPTp2. One of the major contributors to poor IPTp2 coverage is confusion by providers about when to administer IPTp-SP.[4] Other obstacles that have been identified include late ANC attendance; insufficient coordination of commodities leading to stockouts of SP in facilities; inadequate and high turnover in staffing at facilities; poor dissemination of guidelines among providers, and/or conflicting or unclear guidelines about IPTp; and insufficient resources to support malaria in pregnancy (MIP) programs.[5,6] ITN coverage is affected by issues such as cost, difficulty of redeeming vouchers given in ANC clinics, and women's perception that they are inconvenient to use and hot to sleep under.[7]

Since one of the major reasons cited for low uptake of IPTp2 and ITNs is provider confusion about when and how to distribute them, PMI and the Maternal and Child Health Integrated Program (MCHIP) are interested in assessing national-level MIP documents and training materials to

[1] This report refers to 1) insecticide-treated mosquito nets (ITNs), which are the conventionally treated nets that have been dipped in insecticide and require retreatment after three washes or after one year of use; and 2) long-lasting ITNs, which are made with factory-treated netting material that incorporates insecticide within, or bound around, the fibers. To qualify as a long-lasting ITN, these nets must retain their effectiveness without retreatment for at least 20 washes and three years of recommended use in the field. In 2007, WHO's guidance to national malaria control programs and partners shifted to use of long-lasting ITNs. Consistent with WHO's guidance, the term long-lasting ITNs is used in the recommendations of this report. The term ITNs is used in this report where data and resources cited specify ITNs.

[2] World Health Organization (WHO). 2004. A strategic framework for malaria prevention and control during pregnancy in the Africa region. Brazzaville: WHO/ Regional Office for Africa (AFRO). http://whqlibdoc.who.int/afro/2004/AFR_MAL_04.01.pdf

[3] van Eijk, AM et al. 2001. Coverage of malaria protection in pregnant women in sub-Saharan Africa: a synthesis and analysis of national survey data. *Lancet Infect Dis*. 11: 190–207.

[4] Hill J, Dellicour S, Bruce J, Ouma P, Smedley J, et al. 2013. Effectiveness of Antenatal Clinics to Deliver Intermittent Preventive Treatment and Insecticide Treated Nets for the Control of Malaria in Pregnancy in Kenya. PLoS ONE 8(6): e64913. doi:10.1371/journal.pone.0064913

[5] Hill J, Hoyt J, van Eijk AM, D'Mello-Guyett L, ter Kuile FO, et al. 2013. Factors Affecting the Delivery, Access, and Use of Interventions to Prevent Malaria in Pregnancy in Sub-Saharan Africa: A Systematic Review and Meta-Analysis. PLoS Med 10(7): e1001488. doi:10.1371/journal.pmed.1001488.

[6] MIP Program Updates: Accelerating Malaria in Pregnancy Programs to Achieve Country Scale-Up. http://www.rollbackmalaria.org/mechanisms/mpwg.html

[7] Hill J et al. 2013.

identify conflicts and inconsistencies. It is fortuitous that in July 2012, the WHO Evidence Review Group for IPTp studied the most recent data on the continued efficacy of IPTp-SP and determined that frequent dosing of IPTp-SP is effective in reducing the consequences of MIP. Based on this review, the WHO Malaria Policy Advisory Committee updated the IPTp-SP policy in October 2012.[8] Because most countries will need to revise their documents to be in line with the updated policy, this is an opportune time to ensure consistency. When introducing the updated WHO 2012 guidelines for the provision of IPTp as a comprehensive component of MIP services, including long-lasting ITN use and prompt case management, it will be essential that reproductive health (RH) and malaria control programs work closely to ensure consistency between country policies, guidelines, and training materials. MIP is a maternal and newborn health issue and requires a strong partnership between the national malaria control programs (NMCPs), which provide technical expertise on MIP, and the RH programs, which manage the implementation and oversight of MIP interventions. A review of national-level MIP documents will increase our understanding of the existing MIP guidance that countries are promoting for health workers; specifically, how well these documents reflect WHO guidance and the consistency between policy and guidance documents from the national RH and malaria control programs. The review will also provide information to the NMCPs and PMI as to where and how frequently inconsistencies occur, so that these inconsistencies can be avoided with the dissemination and support of the new WHO guidelines.

BACKGROUND

PMI asked MCHIP to conduct a rapid review of policy documents, national guidelines, and training and supervision materials across malaria and RH programs in 19 PMI focus countries: Angola, Benin, Democratic Republic of the Congo (DRC), Ethiopia, Ghana, Guinea, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zambia, and Zimbabwe.

Data from the countries, all PMI-supported countries, included in this review are listed in Table 1. (Data sources indicated in parenthesis.)

Table 1. Data on IPTp2 uptake and ITN use by pregnant women

COUNTRY	IPTp2 UPTAKE	ITN USE BY PREGNANT WOMEN	YEAR OF IPTp POLICY ADOPTION
Angola	17.5% (2011 MIS) 2.5% (2006 MIS)	25.6% (2011 MIS) 22.0% (2006 MIS)	2004
Benin	22.8% (2011–2012 DHS)† 3% (2006 DHS)	75.5% (2011–2012 DHS)† 19.6% (2006 DHS)	2004
DRC	5.1% (2007 DHS)	7.1% (2007 DHS)	2006
Ethiopia	*n/a	34.7% (2011 MIS) 35.2% (2007 DHS) 1.1% (2005 DHS)	*n/a
Ghana	64.6% (2011 MICS) 43.7% (2008 DHS)	32.7% (2011 MICS) 27.4% (2008 DHS)	2004
Guinea	17.8% (2012 DHS)†	28.3% (2012 DHS)† 0.4% (2005 DHS)	2005
Kenya	25.4% (2010 MIS) 15.1% (2008–2009 DHS)	41.1% (2010 MIS) 49% (2008–2009 DHS)	2001
Liberia	49.6% (2011 MIS) 45.1% (2009 MIS)	39% (2011 MIS) 32.9% (2009 MIS)	2004

[8] WHO. Updated WHO Policy Recommendation (October 2012): Intermittent Preventive Treatment of malaria in pregnancy using Sulfadoxine-Pyrimethamine (IPTp-SP). http://www.who.int/malaria/iptp_sp_updated_policy_recommendation_en_102012.pdf.

COUNTRY	IPTp2 UPTAKE	ITN USE BY PREGNANT WOMEN	YEAR OF IPTp POLICY ADOPTION
Madagascar	19.5% (2011 MIS) 6.4% (2008–2009 DHS)	71.5% (2011 MIS) 46.2% (2008–2009 DHS)	2004
Malawi	53.2% (2012 MIS) 53.8% (2010 DHS)	49.7% (2012 MIS) 24.9% (2010 DHS)	2005
Mali	20% (2012–2013 DHS)† 36% (2011 HMIS) 11.2% (2006 DHS)	78.4% (2012-2013 DHS)† 55% (2010 MICS) 28.9% (2006 DHS)	2003
Mozambique	18.6% (2011 DHS) 16.2% (2007 DHS)	34.3% (2011 DHS) 7.3% (2007 DHS)	2006
Nigeria	13.2% (2010 MIS) 4.9% (2008 DHS)	33.5% (2010 MIS) 4.5% (2008 DHS)	2005
Rwanda	*n/a	72.2% (2010 DHS) 47.1% (2007-2008 Interim DHS)	*n/a
Senegal	41.3% (2013 DHS) 38.6% (2010–2011 DHS-MICS) 52.5% (2008–2009 MIS)	43.3% (2013 DHS) 31.5% (2010–2011 DHS-MICS) 28.5% (2008–2009 MIS)	2003
Tanzania	31.8% (2011–2012 AIS) 27.2% (2010 DHS)	74.8% (2011–2012 AIS) 56.9% (2010 DHS)	2002
Uganda	26.7% (2011 DHS) 31.7% (2009 MIS)	46.9% (2011 DHS) 43.7% (2009 MIS)	2000
Zambia	72% (2012 MIS) 62.5% (2007 DHS)	58% (2012 MIS) 32.7% (2007 DHS) 7.6% (2001–2001 DHS)	2003
Zimbabwe	7.3% (2010–2011 DHS) 6.3% (2005–2006 DHS)	9.6% (2010–2011 DHS) 3%(2005–2006 DHS)	2004

MIS = Malaria Indicator Survey; DHS = Demographic and Health Survey; MICS = Multiple Indicator Cluster Survey

HMIS = Health Management Information System; AIS = HIV/AIDS and Malaria Indicator Survey

†Preliminary reports; *n/a = Not applicable, Ethiopia and Rwanda do not recommend use of IPTp-SP during pregnancy

The review aimed to:

1. Understand what guidance on prevention and treatment of MIP is included in national-level RH and malaria documents that are disseminated to health workers;
2. Ascertain whether these documents are consistent with WHO guidance; and
3. Determine whether documents from each country's RH and malaria control divisions are consistent with one another.

This report presents the findings of the review and provides specific recommendations for ensuring consistency among the various country policies and guidelines in accordance with WHO's 2012 recommendations. PMI will collaborate with MCHIP and other partners, including the Roll Back Malaria MIP working group, to share and disseminate the findings and recommendations of this review, as well as the current WHO guidance on IPTp, to stakeholders in each country.

METHODOLOGY

The national-level documents targeted for review in each country include: malaria policy, malaria guidelines, RH policy, RH guidelines, in-service and pre-service education training materials, and supervision guidelines. A framework was developed to review the information included in the national-level documents according to the current WHO guidance for MIP, which is summarized in Table 2. A more detailed summary of WHO guidance is included in Appendix 1. It is important to note that, at the time of this review, none of the country documents were expected to reflect the WHO policy recommendation issued in October 2012, as outlined in Table 2 below, for timing and dose of IPTp-SP. Timing and dose of IPTp-SP were reviewed, however, to better understand the specific guidance being promoted by countries and whether that guidance is consistent across national RH and malaria control documents.

Table 2. Summary of WHO guidance on MIP

MIP AREA	WHO GUIDANCE	WHO SOURCE
IPTp timing and dosing	Pregnant women should receive IPTp-SP as early as possible in the second trimester of pregnancy and at every scheduled ANC visit thereafter, at least one month apart.	Updated WHO Policy Recommendation on Use of IPTp, October 2012
Directly observed therapy (DOT)	IPTp-SP should be administered by DOT.	
Linkages to HIV	IPTp-SP is contraindicated for HIV-positive (HIV+) pregnant women taking cotrimoxazole.	
Promotion and distribution of ITNs	ITNs should be provided to women as early in the pregnancy as possible, at the ANC clinic or through other sources in the public or private sectors.	A Strategic Framework for Malaria Prevention and Control during Pregnancy in the African Region, WHO 2004
	The WHO Global Malaria Programme recommends distribution of ITNs, more specifically long-lasting ITNs, to achieve full coverage of populations at risk of malaria. The best opportunity for rapidly scaling up malaria prevention is free or highly subsidized distribution of long-lasting ITNs through existing public health services (both routine and campaigns).	WHO Global Malaria Programme: Position Statement on ITNs, 2007
Diagnosis	Diagnosis of MIP with microscopy or rapid diagnostic tests (RDTs) is recommended whenever possible.	Guidelines for the Treatment of Malaria, Second Edition, WHO 2010
Treatment	**Uncomplicated Malaria:** *First Trimester:* Quinine plus clindamycin to be given for seven days (artesunate plus clindamycin for seven days is indicated if this treatment fails). An artemisinin-based combination therapy (ACT) is indicated only if this is the only treatment immediately available, or if treatment with seven-day quinine plus clindamycin fails, or if there is uncertainty about patient compliance with a seven-day treatment. Note: If clindamycin is unavailable or unaffordable, then quinine monotherapy should be given. *Second and Third Trimester:* An ACT known to be effective in the country/region or artesunate plus clindamycin to be given for seven days or quinine plus clindamycin to be given for seven days (with the exception of DHA-PPQ (dihydroartemisinin-piperaquine), for which there is insufficient information to use as a first-line therapy in second and third trimesters of pregnancy). **Severe Malaria:** Parenteral antimalarials should be given to pregnant women with severe malaria in full doses without delay. Parenteral artesunate is preferred over quinine in the second and third trimesters, because quinine is associated with recurrent hypoglycemia. In the first trimester, the risk of hypoglycemia is lower and the uncertainties over the safety of the artemisinin derivatives are greater, thus the two drugs are considered equivalent.	

An initial review of documents from five countries—Kenya, Mali, Mozambique, Tanzania, and Uganda—was conducted on documents collected from November 1, 2012–February 28, 2013. A report on findings and recommendations specific to those five countries was completed in July 2013. A review of documents from the remaining 14 countries was conducted from August 1–September 30, 2013. This report includes findings and recommendations from all 19 countries. Documents reviewed represent policies, guidelines, and training materials in place at the time of the two specified reviews. PMI and MCHIP staff from headquarters and in the countries reviewed drafts of this report. As the report was being finalized in March 2014, MCHIP staff from Angola, Ghana, Guinea, Liberia, Malawi, and Rwanda advised that revisions of documents in these countries would soon be completed.

OVERALL FINDINGS, RECOMMENDATIONS, AND DISCUSSION

This is the first formal review of national policies, guidelines, educational, and supervision materials pertaining to the prevention and treatment of MIP across divisions of malaria control and RH in these 19 sub-Saharan Africa countries. The documents reviewed pointed to important issues for each country as well as to overarching needs in the region that should be considered and addressed to improve women's access to evidence-based prevention and treatment of MIP. The review did not formally include assessment of how these national-level documents affect implementation of MIP programs.

Findings and Recommendations

This section of the report presents common findings and recommendations across the 19 countries. While nearly all countries have national-level documents promoting IPTp-SP,[9] and all countries have documents promoting ITN use and treatment of MIP, WHO evidence-based guidance is not always reflected. For example, policy documents from Angola, Mozambique, and Tanzania prohibit use of IPTp-SP prior to 20 weeks of pregnancy and recommend its provision during fixed timeframes. This prevents eligible women presenting in the second trimester prior to 20 weeks from receiving IPTp. Furthermore, if health workers adhere rigidly to these fixed time frames, it can preclude eligible women from receiving even one dose. Further review of both RH and malaria control documents showed that while some countries, such as Kenya, have consistent guidance across documents, other countries, including Angola, Benin, Mali, Liberia, and Uganda, have inconsistent or unclear guidance.

Global policies are meant to be adapted to each country's local situation and context to help achieve the highest level of coverage and improved health outcomes. Kenya's policy of only promoting IPTp in areas of high transmission is a good example of this. At the same time, it is worrisome that multiple countries are promoting out-of-date and discordant guidance, as indicated in the country-specific findings and recommendations section of this report and summarized in Table 3.

Documents were considered to conflict with each other if contradictory guidance was given in terms of prevention and treatment of MIP. Inconsistent documents are those where guidance is worded differently with the potential to cause confusion among program managers and providers. Incomplete documents or those with omissions are those who make little or no mention of a key MIP area, such as use of DOT.

[9] Ethiopia and Rwanda do not recommend use of IPTp-SP during pregnancy.

Table 3. Common issues of out-of-date and discordant guidance in national documents

Country	Unclear timing and dosing guidance for IPTp-SP	Designation of IPTp-SP by specific week intervals	Prohibition of IPTp-SP before 20 weeks	Prohibition of IPTp-SP after 36 weeks or in the last month of pregnancy	Unclear guidance regarding DOT	Need for interrupting folic acid intake after taking SP in countries that use high doses of folic acid*	Inconsistent guidance about malaria prevention for HIV+ women	Unclear guidance on when and how pregnant women should obtain ITNs	Lack of guidance on use of microscopy or RDTs for diagnosis	Incomplete or confusing guidance on treatment of malaria by trimester
Angola	x	x	x	x	x	x	x			x
Benin	x			x		x				x
DRC	x	x		x			x		x	x
Ethiopia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x		x
Ghana	x			x		x	x	x		
Guinea	x			x			x	x		x
Kenya	x	x				x		x		x
Liberia	x			x	x	x	x	x	x	x
Madagascar	x				x		x	x		x
Malawi	x	x		x		x		x	x	
Mali	x	x		x	x	x	x	x	x	x
Mozambique	x		x				x	x		
Nigeria	x							x		
Rwanda	n/a	n/a	n/a	n/a	n/a	n/a	x	x		x
Senegal	x	x		x			x	x		x
Tanzania	x	x	x	x			x	x	x	x
Uganda	x	x				x	x	x	x	x
Zambia		x		x		x	x			x
Zimbabwe	x	x		x	x	x	x	x	x	
Total # of countries with issues	16	10	3	12	5	10	14	15	7	14

* Low-dose folic acid is recommended during pregnancy and is compatible with SP use.

Outdated and discordant guidance is confusing to program planners, providers, and monitoring and evaluation efforts, and wastes financial and human resources. Such guidance can also result in low uptake of vital interventions such as IPTp-SP, ITN use among pregnant women, and appropriate and prompt diagnosis and treatment of MIP.

The 2012 update of WHO's IPTp recommendation affords countries the opportunity to review their national-level policies and guidelines for both malaria and RH, as well as to update all of their guidance documents according to evidenced-based findings. The newly updated WHO policy is also an opportunity for national RH, malaria, and HIV programs to come together and foster in-country partnerships. This policy and guideline review could be accomplished by the establishment of a national TWG for MIP, comprised of leaders from the divisions of RH, malaria, and HIV. Other key members should represent the departments responsible for laboratories/diagnostics, medical stores, pre-service and in-service education, health management information system, monitoring and evaluation, and community information, education, and communication (IEC). The TWG would first review the WHO policy recommendation, then compare existing RH, malaria, and other related policies and guidelines to it, and update them as necessary. At the same time, the TWG will need to identify and

address gaps in the health system that are precluding uptake of IPTp and long-lasting ITNs. The TWG must then ensure strict oversight of all revised documents emanating from the MOH and its partners to guarantee consistency among the documents. The effort to update and ensure consistency among all national policy, guideline, and educational/supervisory documents relating to MIP, as well as disseminate them to front-line workers and see the process through, will require enormous commitment by the MOH, the TWG members, and their support staff.

Summarized below, grouped by MIP focus-area, are the common issues highlighted by this review and overall recommendations for consideration by national-level policymakers and regional and global partners.

Timing and dose of IPTp-SP and DOT

Policy and guideline documents often provide conflicting and inconsistent information about use of IPTp-SP. While malaria control programs provide technical guidance, MIP is implemented by RH divisions through ANC. Failure to provide consistent MIP guidance in malaria and RH documents can lead to confusion among providers. Thus, pregnant women either do not receive services or services are provided incorrectly. This is further complicated by stockouts of SP, as noted by Hill et al.[10]

Recommendations

- All countries with policies promoting IPTp-SP should place priority on reviewing, updating, and disseminating their national guidelines, training packages, and supervision tools to reflect the WHO 2012 policy recommendation on use of IPTp-SP.
- The Ministry of Health (MOH) divisions for malaria control, HIV, and RH should form technical working groups (TWGs) to develop consistent and harmonized guidance on all aspects of MIP, which should be reflected in every document coming from the MOH for front-line providers at every level of the health system as well as for pre-service and in-service educational programs.
- The MOH divisions might consider identifying "Champions for Malaria in Pregnancy" who can advocate for national-level political and fiscal commitment to reach MIP targets and help sensitize and energize colleagues to formulate strategies to make this possible, including ensuring adequate stocks of SP at ANC.

Anemia Prevention

Another common issue (found in 10 of the 19 countries) related to IPTp-SP distribution is the use of daily doses of 5 mg of folic acid during pregnancy, which interferes with the efficacy of IPTp-SP. These countries recommend suspension of folic acid for at least one week after IPTp-SP is given. These interruptions can cause confusion about resuming folic acid, which is often combined with iron, leading to under-treatment of anemia. The use of daily doses of 5 mg of folic acid is not consistent with the WHO recommendation of daily doses of 0.4 mg of folic acid, which can be administered concurrently with IPTp-SP without affecting its efficacy.

Recommendation

- Countries should ensure that pregnant women are provided with the recommended dose of folic acid (0.4 mg/day), preferably administered as combination iron-folate tablets consisting of 60mg iron and 0.4 mg folate, which can be used in conjunction with SP. Folic acid at a daily dose equal to or above 5mg should not be given together with IPTp-SP as this counteracts SP's efficacy as an antimalarial.

[10] Hill J et al. 2013.

Linkages to HIV

In 14 of the countries reviewed there is inconsistent guidance about malaria prevention for HIV+ women. MIP and RH guidelines often do not address this issue and providers may not be aware that women taking daily cotrimoxazole (CTX) should not receive IPTp-SP.

Recommendation

- Countries should review and update all documents relating to malaria, RH, and HIV to ensure current and consistent guidelines about use of IPTp for HIV+ women, specifically, women taking daily cotrimoxazole prophylaxis should not be given IPTp-SP. While national malaria control and RH programs should collaborate to produce consistent guidelines, they should also include their colleagues from the national HIV/AIDS arena so that prevention and treatment of MIP for HIV+ women is clear for all providers.

Promotion and Distribution of Long-Lasting ITNs

Although most malaria and RH policies and guidelines recommend use of ITNs as early as possible in pregnancy, there is often no guidance to providers about when and how pregnant women are to obtain ITNs. While some countries provide vouchers to women to subsidize the purchase of nets, the process is not clearly described in policies and guidelines. In countries where women must purchase nets without vouchers, providers need guidance to correctly inform women about their purchase. Commodity systems are not streamlined and the reasons for this are varied: budget constraints, poor forecasting, lack of resources for logistics, and use of different supply systems. While not the focus of this review, long-lasting ITN procurement and access to long-lasting ITNs for pregnant women are particularly critical in light of the shortage of long-lasting ITNs and demands for universal coverage combined with the vulnerability of pregnant women.

Recommendation

- Per WHO guidance, countries should shift to use of long-lasting ITNs over ITNs and promote universal coverage. Routine distribution through ANC should also be incorporated to ensure pregnant women receive and use a long-lasting ITN. Countries should make consistent recommendations about counseling of women on use of long-lasting ITNs, as well as how nets are distributed. If vouchers are used they should be redeemable at outlets near the ANC clinic at an affordable price. Ideally, long-lasting ITNs should be given to all women at the first ANC visit, free of charge, and this should be documented on the ANC card and register. In addition, countries should ensure that effective procurement and management practices prioritize refills of long-lasting ITNs at ANC to give pregnant women consistent access and greater opportunities for coverage, in addition to long-lasting ITNs they may receive during universal coverage campaigns.

Diagnosis

Guidance documents are not consistent in recommending diagnosis of MIP with RDTs or microscopy prior to treatment. Uganda's malaria guidelines recommend treating all pregnant women with fever for presumed malaria, which can lead to over-treatment and misdiagnosis of other causes of febrile illness. Democratic Republic of the Congo's RH guidelines recommend diagnosis with microscopy or RDT, but state that treatment should begin without waiting for results.

Recommendation

- All policies, guidelines, and educational materials should stress the need for diagnosis of MIP prior to treatment, and RDTs should be available in all facilities.

Treatment

Guidance documents lack clearly-defined treatment regimens specifically for MIP, by trimester. For example, Angola's malaria guidelines recommend use of oral quinine for uncomplicated malaria in the first trimester and in all trimesters, but no dose is given. Quinine is also recommended for severe malaria, but again, doses are not given. Guinea's malaria guidelines do not discuss treatment of uncomplicated malaria in pregnancy. In Madagascar the RH guidelines recommend intravenous (IV) quinine in the first trimester but the dose is not given, and ACTs in the second and third trimesters, but drugs and doses are not given. RH guidelines in several countries (i.e., Malawi and Uganda) do not mention treatment of malaria in pregnancy.

Recommendation

- Clear algorithms—complete with appropriate medications, doses, and timing by trimester—for both uncomplicated and severe malaria should be developed and used consistently in all documents, supervision tools, and educational materials. Job aids that reflect these algorithms should be developed and distributed widely.

Discussion

While this review is targeted primarily at national-level stakeholders, the information is important for those at the regional and the global levels as well. For example, when called upon by MOHs, country advisors from UNICEF, UNFPA, and WHO can use these findings to act as advocates for policy and guideline revisions and health system strengthening through the TWG process. The Roll Back Malaria MIP working group can continue to support dissemination of best practices and lessons learned and collaborate with the United Nations agencies and other organizations to foster the partnership between RH and malaria control programs as the TWG is formed and becomes functional. PMI and other global donors can use this information to better understand existing bottlenecks (per out-of-date and discordant guidance) and, in partnership with the TWG, determine what technical assistance is needed to address them. Finally, non-governmental organizations, faith-based organizations, and private sector donors working at the frontline should understand how the new policy will affect their programs. They must be prepared to work with the MOH, who should call upon them to rapidly adopt and disseminate revised policies and guidelines at all levels of the health system and in the community.

COUNTRY-SPECIFIC FINDINGS AND RECOMMENDATIONS

This section presents detailed findings and recommendations categorized by each of the 19 countries. Table 4 summarizes the types of documents reviewed per country. For detailed findings by country, refer to the completed frameworks in Appendices 2 through 20.

Table 4. National-level documents reviewed

	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM
Angola	X	X	X		X	X	
Benin	X	X	X	Incorporated into RH Policy	X	X	
DRC	X	X	X	X		X	X
Ethiopia	X	X	X		X		
Ghana	X	XX			XX		
Guinea	X	X		X	X	X	
Kenya	X	X	X		X	X	
Liberia	X	X	X	X	X	X	X
Madagascar	X	X	X	X	X	X	X
Malawi		X	X	X	XX		
Mali	X	X	X	X	X	X	
Mozambique	X	X	X	X	X	X	X
Nigeria	X	XX	X		X		
Rwanda		X	X	X	X		
Senegal			X	X	X		
Tanzania		X		x	X	X	X
Uganda	X	X	X	X	X		
Zambia		X	X	X	X	X	
Zimbabwe	X	X	X	X	X	X	

XX = more than one document in this category was reviewed.

Angola

The documents reviewed are indicated in Table 4. At the time of this review, MCHIP staff in Angola stated that MIP documents were undergoing revision and were expected to reflect the updated WHO recommendations.

MIP Key Area	Findings from Angola's Documents
IPTp timing and dose	▪ Malaria Policy does not mention IPTp timing, but mentions that SP (3 tablets) should be used. ▪ Malaria Guidelines recommend the 1st dose of IPTp-SP, 3 tablets, at 13 weeks, with at least 3 more doses up to the time of delivery at least 1 month apart. Folic acid 0.4 mg daily is recommended to avoid interaction with SP, but women on 5 mg doses should not take SP. ▪ RH Policy mentions the need for IPTp but no specifics are given. ▪ Training package on diagnosis and management of malaria recommends 2 doses of IPTp-SP, 3 tablets, during pregnancy, 1st dose at quickening or between 20–32 weeks; 2nd dose at least 1 month later. Job aid says to give at 4 and 7 months. ▪ Supervision guide: timing same as training package; medication and dose not mentioned.
DOT	▪ Malaria Policy and RH Policy do not mention DOT. ▪ Malaria Guidelines, training package and supervision guide recommend DOT.
Linkages to HIV	▪ Malaria Policy and supervision guide state that HIV+ women should receive 3 doses of IPTp-SP, but CTX is not mentioned. ▪ Malaria Guidelines state that HIV+ pregnant women on CTX should not take IPTp-SP. ▪ RH Policy and training package do not mention HIV+ women.
ITN promotion/distribution	▪ Malaria Policy promotes use of ITNs; every woman should receive nets in ANC. ▪ Malaria Guidelines state counseling on use of ITNs should be done and ITNs should be given free of charge at ANC visit. ▪ RH Policy does not mention promotion or distribution of ITNs. ▪ Training package recommends counseling; net distribution not specified. ▪ Supervision guide recommends counseling; give ITN at ANC or tell woman where to procure one.
Diagnosis	▪ Malaria Policy, Malaria Guidelines, training package and supervision guide all state that microscopy or RDT should be used for diagnosis. ▪ RH Policy: diagnosis is not mentioned.
Treatment	▪ Malaria Policy and RH Policy do not discuss treatment of malaria in pregnancy. ▪ Malaria Guidelines state that for uncomplicated malaria, 1st trimester: oral quinine, no dose given, can be used in all trimesters; 2nd and 3rd trimesters: AL, 4 tabs every 12 hours for 3 days. Severe malaria: quinine can be used but dose is not stated clearly, there are still many edits in this draft. Artesunate IV 2.4 mg/kg every 12 hours for 7 days is used for adults but not clearly stated that this can be used in pregnancy as well. ▪ Training package: quinine and AL mentioned for uncomplicated malaria, not all doses given; severe malaria not mentioned. ▪ Supervision guide: For uncomplicated malaria quinine and AL specified by trimester, no doses; severe malaria: loading dose of quinine and refer (no dose given).
Additional information	▪ An undated PowerPoint presentation from NMCP with older recommendations for IPTp has more detail on treatment during pregnancy, and is in line with WHO recommendations.

Recommendations

1. All RH and malaria documents (Malaria Policy, RH Policy, training package and supervision guide) should be made consistent with the Malaria Guidelines, which reflect the WHO 2012 recommendations for prevention of malaria in pregnancy with IPTp-SP, treatment of HIV+ women, promotion and distribution of ITNs, and diagnosis of malaria.
2. The Malaria Guidelines should be finalized and should reflect the WHO 2010 guidelines for treatment of MIP, giving details on drugs and doses for uncomplicated and severe malaria by trimester. All other documents should be made consistent with the final version of the Malaria Guidelines

Benin

The documents reviewed are indicated in Table 4.

MIP Key Area	Findings from Benin's Documents
IPTp timing and dose	▪ Malaria Policy states that the 1st dose of SP (number of tablets not specified) should be given at the beginning of 2nd trimester up to time of delivery (weeks not specified), number of doses not specified. ▪ Malaria Guidelines recommend giving IPTp-SP between 16 and 36 weeks, number of tablets and number of doses not mentioned, dose interval not mentioned. Job aid attached to Malaria Guidelines recommends 2 doses of SP, 3 tablets, 1st at 16 weeks or quickening, at least one month apart, up to 36 weeks. ▪ RH Policy incorporates RH Guidelines, and does not provide specific information on prevention or treatment of malaria in pregnancy. ▪ Supervision tool does not mention timing; SP 3 tablets specified. ▪ Training materials recommend the 1st dose of IPTp (SP, 3 tablets) at 16 weeks; 2nd dose at least 1 month later, up to time of delivery. If taking folic acid (dose not specified) do not take within 72 hours of SP dose.
DOT	▪ Malaria Policy, Malaria Guidelines, supervision tool and training materials all recommend DOT.
Linkages to HIV	▪ Malaria Guidelines: HIV-positive women start CTX at 16 weeks. ▪ Malaria Policy and Supervision tool do not discuss HIV+ women. ▪ Training materials: HIV+ women on CTX should not take IPTp-SP.
ITN promotion/distribution	▪ Malaria Policy states long-lasting ITNs should be used by all pregnant women and given during ANC visits. ▪ Malaria Guidelines and training materials recommend ITN promotion but distribution not specified. ▪ Supervision tool: promotion of nets is recommended, should be given as part of ANC kit for which a prescription is given to the woman and payment is made at the pharmacy.
Diagnosis	▪ Malaria Policy states confirmation with microscopy or RDT is obligatory prior to treatment. ▪ Malaria Guidelines, supervision tool, and training materials: testing via microscopy or RDT recommended
Treatment	▪ Malaria Policy recommends for uncomplicated malaria, 1st trimester, oral quinine, dose not given. 2nd and 3rd trimesters, AL and AS/AQ are first line drugs, doses not given. Severe malaria, all trimesters, IV quinine, dose not stated; 2nd and 3rd trimesters, parenteral artesunate can be used, dose not specified. ▪ Malaria Guidelines: Uncomplicated malaria: oral quinine in 1st trimester, dose not specified; AL 4 tabs every 12 hours for 3 days in 2nd and 3rd trimesters; severe malaria: trimesters not specified, IV quinine 10 mg/kg every 8 hours for at least 3 doses, then begin oral meds when able, drug and doses not given. ▪ Training materials: uncomplicated malaria, 1st trimester, oral quinine 10 mg/kg every 8 hours for 7 days; 2nd and 3rd trimesters, AL 4 tabs twice daily for 3 days; severe malaria: trimesters not specified, IV quinine 10 mg/kg every 8 hours for 7 days, give oral meds when possible to complete 7 days of treatment, dose not specified. ▪ Supervision tool: uncomplicated malaria: 1st trimester oral quinine, no dose; no drugs given for 2nd and 3rd trimesters; severe malaria: not mentioned.

Recommendations

1. The Malaria Policy has some current information on IPTp-SP but this should also include the dose of SP and intervals (i.e., not less than monthly).
2. The Malaria Guidelines and job aid should be updated to reflect the WHO 2012 recommendations, and should include the dose of SP and appropriate intervals. Explicit mention should be made not to give IPTp-SP to HIV+ pregnant women on CTX.
3. The RH Guidelines should include information on prevention and treatment of MIP per the current WHO recommendations.
4. The supervision tools should indicate the timing, dose, and intervals of IPTp-SP administration per the current WHO recommendations, and should indicate that HIV+ pregnant women on CTX should not take SP.
5. The training materials should be updated to reflect current WHO recommendations. If 0.4 mg of folic acid daily is the standard in Benin, reference to suspending its use after SP should be removed.
6. All documents should specify the mechanism for distribution of long-lasting ITNs and that they should be given at the first ANC visit.
7. All documents should be updated to reflect WHO 2010 treatment guidelines and include names of drugs and their doses for uncomplicated and severe malaria by trimester.

Democratic Republic of the Congo

The documents reviewed are indicated in Table 4.

MIP Key Area	Findings from DRC's Documents
IPTp timing and dose	▪ Malaria Policy: IPTp to be provided to all women during pregnancy, no other specifics. ▪ Malaria Guidelines: 1st dose of IPTp-SP (3 tablets) at 16 weeks or after quickening; 2nd dose at 28 weeks; if outside these times can give at least 1 month apart, not after 32 weeks. ▪ RH Policy: no information on prevention or treatment of malaria in pregnancy. ▪ RH Guidelines: 1st dose of IPTp-SP (3 tablets) at 16 weeks or quickening; 2nd dose at 24–28 weeks; 3rd dose at 32 weeks. ▪ Integrated Supervision Tool: looks at availability of medications, commodities, and guidelines, but no recommendations for prevention or treatment are mentioned in this document. ▪ Pre-service Module (Basic Nursing): 1st dose of SP (3 tablets) at 16 weeks or quickening, 2nd dose at 28 weeks. If first dose is after 16 weeks next dose should be given at least 1 month later.
DOT	▪ Malaria Policy: not mentioned. ▪ Malaria Guidelines, RH Guidelines, Pre-service module: recommended
Linkages to HIV	▪ Malaria Policy: not mentioned. ▪ Malaria Guidelines, RH Guidelines and Pre-service Module: if not on CTX HIV+ women should receive 3 doses of IPTp-SP, the 3rd dose at 32 weeks;
ITN promotion/distribution	▪ Malaria Policy, Malaria Guidelines, RH Guidelines and Pre-service Module: women should be counseled on ITN use in ANC; ITNs should be distributed in ANC as early in pregnancy as possible.
Diagnosis	▪ Malaria Policy: not mentioned. ▪ Malaria Guidelines and Pre-service Module: confirmation of diagnosis with microscopy or RDT recommended. ▪ RH Guidelines: suspected cases should be confirmed by microscopy or RDT but don't delay treatment while waiting for results.
Treatment	▪ Malaria Policy: not mentioned. ▪ Malaria Guidelines: uncomplicated malaria, all trimesters, oral quinine 10 mg/kg 3 times/day, with clindamycin 10 mg/kg 2 times/day both for 7 days; 2nd and 3rd trimesters AS/AQ, 2 tablets daily for 3 days. Severe malaria: quinine to be used in 1st trimester, loading dose 20 mg/kg then 10 mg/kg every 12 hours until oral intake, then complete 7 days of treatment. In 2nd and 3rd trimesters not specifically stated but inferred from text that it is as for treatment of adults, artesunate parenterally 2.4 mg/kg at 0, 12, and 24 hours, then daily; complete 3 days with AS/AQ when able. ▪ RH Guidelines: Uncomplicated malaria: 1st trimester and last month of pregnancy: oral quinine 10 mg/kg 3 times/day for 7 days; from 16–28 weeks give AS/AQ 2 tablets/day for 3 days. Severe malaria: reader is referred to guidelines in Volume II of Integrated Norms, which is the section on EmONC. ▪ Pre-service Module: Uncomplicated malaria: as described in Malaria Guidelines. Severe malaria: Parenteral quinine 20 mg/kg loading dose, then 10 mg/kg every 12 hours until oral meds can be taken; assume this is for all trimesters but section on treatment in pregnancy is not clear.

Recommendations

1. All documents should be updated and made consistent with each other to reflect WHO 2012 recommendations for IPTp-SP use.
2. All documents should recommend that HIV+ women on CTX should not receive SP.
3. Documents should reflect need for confirmation of malaria by microscopy or RDT before initiating treatment.
4. Documents should be made consistent with the Malaria Guidelines, and include drugs and doses by severity of disease and by trimester. The fixed dose of AS/AQ should be stated so that the correct number of tablets is given.

Ethiopia

The documents reviewed are indicated in Table 4.

MIP Key Area	Findings from Ethiopia's Documents
IPTp timing and dose	▪ Malaria Policy and Malaria Guidelines: IPTp-SP not recommended, as the country is an area of unstable transmission. ▪ RH Strategy mentions MIP in context of indirect cause of maternal mortality; need to increase ANC attendance and knowledge of danger signs. ▪ Training materials: National BEmONC Training Manual: no mention of IPTp
DOT	▪ Not applicable
Linkages to HIV	▪ Malaria Policy: HIV+ women not mentioned. ▪ Malaria Guidelines: treatment for HIV+ women is similar to that of women not infected. ▪ Training materials: HIV+ women should be encouraged to use ITNs.
ITN promotion/distribution	▪ Malaria Policy and Training materials: should be promoted, distribution not specified. ▪ Malaria Guidelines: promotion recommended; distribution options through HEWs specified.
Diagnosis	▪ Malaria Policy and Guidelines: testing should be done. ▪ Training materials: where available, confirm diagnosis with microscopy or RDT.
Treatment	▪ Malaria Policy: Uncomplicated malaria, 1st trimester: oral quinine, no doses given; 2nd and 3rd trimester, AL, no doses given; severe malaria, quinine all trimesters, no doses given. ▪ Malaria Guidelines: 1st trimester: oral quinine 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters: AL, 4 tabs twice daily for 4 days; severe malaria: IV or IM artesunate 2.4 mg/kg at admission and at 12 and 24 hours, then daily until oral meds can be taken; or quinine infusion 20 mg/kg loading dose then 10 mg/kg every 8 hours until oral intake is possible. ▪ RH Strategy: not mentioned. ▪ Training materials: uncomplicated malaria, oral quinine 8 mg/kg, 3 times/day for 7 days, trimesters not mentioned; severe malaria: IV quinine 20 mg/kg loading dose, then 10 mg/kg every 8 hours until oral quinine can be taken to complete 7 days of treatment; trimesters not specified.

Recommendations

1. All documents should specify how ITNs are distributed to women as early in pregnancy as possible.
2. All documents should be made consistent with the Malaria Guidelines, and include drugs, doses, and use by trimester for uncomplicated and severe malaria.

Ghana

The documents reviewed are indicated in Table 4. At the time of this review, the malaria policies and guidelines were being revised and not available for review.

MIP Key Area	Findings from Ghana's Documents
IPTp timing and dose	▪ Malaria Policy: 1st dose after quickening, number of doses and interval not specified; SP specified but not dose. ▪ MIP Guidelines: 1st dose at 16 weeks, 3 doses of SP (3 tablets) at not less than monthly intervals to 36 weeks. ▪ Case Management Guidelines: 1st dose after quickening or 16 weeks, 3 doses to 36 weeks at no less than monthly intervals; SP, number of tablets not specified; delay folic acid for one week after SP. ▪ MIP Training manual: 3 doses of SP, 3 tablets, 1st dose after 16 weeks or quickening, 2 subsequent doses at least 1 month apart up to 36 weeks; should be taken after eating. ▪ Training manual for management of malaria at health facilities: first dose of SP, number of tablets not mentioned, after quickening, weeks not specified, number of doses not specified, no upper limit on number of weeks.
DOT	▪ All documents recommend DOT.
Linkages to HIV	▪ Malaria Policy and training manual for management of malaria: not specified. ▪ MIP training manual: states that HIV+ women should be targeted for IPTp-SP but later states not to give SP to women on CTX. ▪ MIP and Case Management Guidelines: SP not given to HIV+ women or any woman on CTX.
ITN promotion/distribution	▪ Malaria Policy, Case Management Guidelines, and training manual for management of malaria: promotion recommended, distribution not specified. ▪ MIP Guidelines and MIP training materials: promotion recommended, distribution specified (vouchers, campaigns, ANC clinics).
Diagnosis	▪ All documents recommend confirmatory testing by microscopy or RDT.
Treatment	▪ Malaria Policy: Uncomplicated malaria: 1st trimester: oral quinine or oral quinine in conjunction with clindamycin, doses not given. 2nd and 3rd trimesters: oral quinine or AS/AQ or AL, doses not given. Severe malaria: All trimesters: parenteral quinine, dose not given; 2nd and 3rd trimesters: artemether injection is recommended, dose not given. ▪ MIP and Case Management Guidelines, MIP training materials, and training manual for management of malaria: uncomplicated malaria, 1st trimester: oral quinine, 600 mg every 8 hours for 7 days; OR oral quinine with clindamycin 300 mg every 8 hours for 3 days. 2nd and 3rd trimesters: oral quinine as above, OR AS/AQ in 1 or 2 divided doses for 3 days, or AL 4 tabs twice daily for 3 days. Severe malaria: quinine IM or IV, 10 mg/kg every 8 hours for 7 days or until oral intake is tolerated, can be used in all trimesters. 2nd and 3rd trimesters: artemether IM 3.2 mg/kg loading dose, then 1.6 mg/kg daily for 5 days, followed by full oral ACT treatment.

Recommendations

1. All documents should be updated and made consistent to reflect WHO 2012 recommendations for IPTp-SP use.
2. Documents should be made consistent with the MIP and Case Management Guidelines to reflect that HIV+ women on CTX should not receive SP.
3. Guidelines should specify that folic acid 0.4 mg daily is recommended in pregnancy and that there is no need to stop folic acid when IPTp-SP is given.
4. All documents should describe how ITNs are distributed during pregnancy.
5. The treatment guidelines given in the Malaria Policy should include doses per WHO 2010 recommendations.
6. National RH guidelines and materials should be reviewed for consistency of WHO MIP policy recommendations.

Guinea

The documents reviewed are indicated in Table 4. Updated documents were available for review in March 2014 and are incorporated in this table. At that time, the updated documents were undergoing further review by the National Malaria Control Program for consistency.

MIP Key Area	Findings from Guinea's Documents
IPTp timing and dose	▪ Malaria Policy (2014): At least 3 doses of IPTp-SP after the first trimester up to delivery, dosage interval not stated; number of tablets not stated. ▪ Malaria Guidelines and RH Guidelines: IPTp-SP, 3 tablets, 1st dose 16 weeks/quickening, 2nd at least one month later but prior to 36 weeks. ▪ Supervision materials: IPTp-SP, 3 tablets, no earlier than 16 weeks, 2nd dose at least 1 month later. ▪ Training materials (2014): 1st dose of 3 tablets at 16 weeks or quickening, not to be given after 3 weeks (trainers manual says SP may be given up to delivery; algorithm states 1st dose at 13 weeks or at quickening, repeat not more often than monthly up to delivery; MOH is working on apparent contradictions)
DOT	▪ All documents recommend DOT.
Linkages to HIV	▪ Malaria Policy and supervision materials: not mentioned. ▪ Malaria Guidelines: discussed but unclear. ▪ RH Guidelines state HIV-positive women should receive CTX after 16 weeks but should also receive 3 doses of IPTp-SP, no mention of withholding IPTp-SP if on CTX. ▪ Training manual: 3 doses of IPTp-SP one month apart unless on CTX. ▪ Supervision materials: not mentioned.
ITN promotion/distribution	▪ Malaria Policy and training manual: ITNs should be promoted and distributed at ANC. ▪ Malaria Guidelines and RH Guidelines: ITNs should be promoted, distribution not specified. ▪ Supervision materials: not mentioned. ▪ Algorithm adopted 2014: ITN use should be promoted; distribution not mentioned.
Diagnosis	▪ All documents except the supervision materials recommend confirmatory testing; the supervision materials do not mention testing.
Treatment	▪ Malaria Policy: uncomplicated malaria, 1st trimester: oral quinine, dose not stated; 2nd and 3rd trimesters give AS/AQ (200 mg/540 mg) daily for 3 days. Severe malaria, trimesters not specified: IM or IV artesunate 2.4 mg/kg at 0, 12 and 24 hours; or IM artemether 3.2 mg/kg loading dose then 1.6 mg/kg, intervals not stated, until oral intake is tolerated; or parenteral quinine loading dose 20 mg/kg, then 10 mg/kg every 8 hours until oral intake is tolerated to complete treatment. ▪ Malaria Guidelines: uncomplicated malaria not discussed; severe malaria, IV quinine, 10 mg/kg every 8 hours for 7 days, trimesters not specified. ▪ RH Guidelines: uncomplicated malaria: oral quinine, 10 mg/kg every 8 hours for 7 days; 2nd and 3rd trimesters AS/AQ, 4 tablets [sic] daily for 3 days; severe malaria: trimesters not specified, IV quinine, 20 mg/kg loading dose then 10 mg/kg every 8 hours, then oral quinine to complete 7 days of treatment. ▪ Reference and trainer's manuals: uncomplicated malaria, 1st trimester: oral quinine 10 mg/kg 3 times a day for 7 days, and clindamycin 10 mg/kg twice daily for 7 days if available; 2nd and 3rd trimesters: AS/AQ (100 mg/270 mg), 2 tablets daily for 3 days. Severe malaria: First line treatment is IV/IM artesunate 2.4 mg/kg at 0, 12 and 24 hours, then oral AS/AQ for 3days if able to tolerate; artemether and quinine can also be given: IV quinine, 20 mg/kg loading dose, then 10 mg/kg every 8 hours, going to oral meds when able to compete 7 days. ▪ Algorithm adopted 2014: Uncomplicated malaria: 1st trimester give quinine, dose not specified; 2nd and 3rd trimesters: AS/AQ (200 mg/540 mg) for 3 days, number of tablets not stated. Severe malaria: trimesters not specified; 1st line treatment is artesunate 2.4 mg/kg IM at 0, 12 and24 hours; 2nd line treatments are artemether and IV quinine 20 mg/kg loading dose, then 10 mg/kg every 8 hours, going to oral meds when able to compete 7 days ▪ Supervision materials: uncomplicated malaria, 1st trimester give oral quinine 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters ACTs, dose not specified. Severe malaria: IM quinine or artemether, doses and trimesters not specified.

Recommendations

1. All documents should reflect WHO 2012 guidelines for use of IPTp-SP, including dose of SP. Even documents updated in 2014 have contradictions about use of SP before 16 weeks (which are being clarified per MCHIP country staff).
2. All documents should be updated and made consistent regarding use of IPTp-SP for HIV+ women on CTX.
3. All documents should provide consistent information on distribution of ITNs during pregnancy and recommend that they be given as early as possible in pregnancy and specify where they should be distributed.
4. All documents should be updated to reflect WHO 2010 treatment guidelines, and provide information on drugs, doses, and their use by trimester for uncomplicated and severe malaria.

Kenya

The documents reviewed are indicated in Table 4.RH guidelines specific to the provision of IPTp during ANC have not been formulated. No specific pre-service education materials about MIP have been formulated in Kenya, thus tutors use existing national malaria guidelines to formulate their curricula.

MIP Area	Key Findings from Kenya's Documents
IPTp timing and dosing	▪ Kenya's documents support previous WHO guidance of providing IPTp during ANC, at intervals of at least one month apart and up to time of delivery, starting at either 16 weeks or quickening. The Focused Antenatal Care/Malaria in Pregnancy/Prevention of Mother-to-Child Transmission/Tuberculosis) (FANC/MIP/PMTCT/TB) Orientation Package for Service Providers and job aid on prevention of MIP recommend 16 weeks, but the IPTp circular on MIP, the national malaria guidelines and the supervision manual recommend quickening for time of first dose. The national malaria policy, strategy, and all RH documents do not specify timing or dosing for IPTp. ▪ The national malaria policy and national malaria strategy, as well as the FANC/MIP/PMTCT/TB orientation package, discuss use of IPTp in high-transmission areas, but not all documents define where these areas are. ▪ Only the national malaria guidelines specify clearly the dose of SP (three tablets). ▪ The guidelines and both orientation packages state that folic acid should either not be given or should be withheld for 14 or 15 days after taking SP; only the orientation packages specify withholding folic acid if high-dose folic acid (5 mg) is used. (Note from PMI: since this review the Division of Nutrition has updated the policy to recommend folic acid 0.4 mg daily).
DOT	▪ All documents recommend SP administration by DOT.
Linkages to HIV	▪ The national malaria guidelines recommend that in areas with HIV prevalence >10%, pregnant women should receive at least three doses of IPTp. ▪ All documents, except the national malaria policy, consistently state that HIV+ women on daily cotrimoxazole should not receive IPTp.
ITN promotion/ distribution	▪ Policy recommends free access to long-lasting ITNs for pregnant women. ▪ Guidelines and orientation packages recommend promotion of ITN use. ▪ Recommendations on distribution of ITNs differ—the national malaria policy and national malaria guidelines as well as the supervision manual recommend free distribution at first ANC visit, however, the means of distribution are not specified in the orientation packages.
Diagnosis	▪ Documents consistently recommend diagnosis of malaria before treatment whenever possible, using either microscopy or RDTs.

MIP Area	Key Findings from Kenya's Documents
Treatment	▪ The national malaria policy recommends free diagnosis and treatment for pregnant women presenting at all health facility levels. ▪ Guidelines for treatment are not mentioned in all documents, but where mentioned, are consistent with WHO treatment guidelines. ▪ Information on treatment doses is lacking or incomplete, especially for uncomplicated malaria, in the IPTp and FANC/MIP/PMTCT/TB orientation packages. ▪ The malaria support supervision materials do not specify treatment for uncomplicated malaria in the second and third trimesters, but indicate intravenous (IV) quinine for treatment of severe malaria, semesters not specified, rather than WHO guidance of quinine in the first trimester and artesunate in second and third trimesters.
Additional information	▪ Two other documents made available for review (the Kenya National Malaria Strategy 2009–2017 and the National Reproductive Health Strategy 2009–2015) include guidance on the importance of collaboration among MOH divisions to ensure integrated programs. The malaria strategy states that the Division of Malaria Control should coordinate with the Division of RH to support use of IPTp and ITNs during ANC. The national RH strategy states that malaria is an indirect cause of maternal mortality and that the Division of RH should collaborate with other MOH divisions to ensure essential health packages addressing malaria. ▪ The Division of Malaria Control and the Division of Reproductive Health (DRH) hold joint TWG meetings to develop IPTp guidelines and IEC materials, to plan for field activities, and to conduct joint supportive supervision, trainings and orientations.

Recommendations

1. The Malaria Guidelines and FANC/MIP/PMTCT/TB orientation training packages should be reviewed in the context of the updated WHO guidance on timing and dosing of IPTp-SP. The MIP and FANC/MIP/PMTCT/TB training packages should be updated to specify the dose of SP for IPTp. WHO's updated policy recommendation for IPTp will be reviewed by the MIP TWG, which will make recommendations to the relevant ministry divisions to revise and disseminate guidance to providers.
2. The national guidelines recommend that women in areas of high malaria transmission receive IPTp (based on studies carried out in Kenya), but do not define where these areas are. The document should be revised to clearly indicate the areas of high transmission, to avoid possible confusion among providers about who should receive routine IPTp.
3. The IPTp and FANC/MIP/PMTCT/TB orientations should reflect where pregnant women can access long-lasting ITNs. For consistency with guidelines, the recommendation is distribution of long-lasting ITNs at the first ANC visit. ITNs fall under the vector control TWG, but the Division of RH is not a member and is thus not involved in quantification, procurement, and distribution. However, the Division of RH participates fully in supporting implementation of ANC activities and data collection, as well as community-level promotion of ITNs.
4. The IPTp orientation does not contain treatment guidelines, but includes an accompanying poster on treatment. The poster does not describe specific doses of quinine and ACTs for uncomplicated malaria, but does describe treatment consistent with WHO guidelines for severe malaria. The poster should also state the need for diagnosis of malaria by microscopy or RDTs, when possible, before treatment. With modification, the poster could be widely used as a job aid. The FANC/MIP/PMTCT/TB orientation has incomplete recommendations on treatment of both uncomplicated and severe malaria by trimester and should be revised.
5. Clindamycin is not given with quinine for uncomplicated malaria due to cost and to decrease exposure to medications in the first months of pregnancy.
6. The support supervision manual should be revised to include treatment of uncomplicated malaria in the second and third trimesters, and specify use of parenteral artesunate in the second and third trimesters.
7. Implement the action plan outlined in the *Kenya MIP Country Update: Accelerating Malaria in Pregnancy Programs to Achieve Country Scale-Up, May 2012,* including improving quality of ANC services, encouraging women to attend ANC earlier in pregnancy, and improving coordination between commodity supply systems.

Liberia

The documents reviewed are indicated in Table 4. In March 2014, MCHIP staff indicated that documents were undergoing revision.

MIP Key Area	Findings from Liberia's Documents
IPTp timing and dose	▪ Malaria Policy and RH Policy: all facilities will furnish IPTp-SP, dose and timing not specified. ▪ Malaria Guidelines: Give SP in 2nd and 3rd trimesters, but timing and dose are not mentioned. ▪ RH Guidelines: 1st dose of 3 tablets—drug not stated—in 2nd trimester; second dose in 3rd trimester, weeks not stated; not to be given 2 weeks prior to delivery [woman should not take folic acid, (dose not stated), for 1 week after IPTp]. ▪ Training materials: SP, 3 tablets, once in the 2nd and once in the 3rd trimester at least 1 month apart, weeks not specified. Don't give with folic acid, no dose of folic acid specified or length of time to suspend folic acid (dose not given) after SP. ▪ Supervision tools: State that IPTp (drug and dose not specified) should be given in 2nd and 3rd trimesters. ▪ Pre-service curriculum for physician assistants (this is an outline of topics to be covered, no in-depth information is provided)**:** At least 2 doses of SP (no dose given) should be provided, timing and intervals not specified.
DOT	▪ Malaria Policy, RH Policy, Malaria Guidelines and Pre-service curriculum: not mentioned ▪ RH Guidelines, training materials and supervision tools: recommended.
Linkages to HIV	▪ Malaria Policy, Malaria Guidelines, Training materials, Supervision tools and Pre-service curriculum: not mentioned. ▪ RH Guidelines: IPTp not to be given to women on CTX.
ITN promotion/distribution	▪ Malaria Policy and training materials: ITNs should be promoted and distributed at ANC. ▪ Malaria Guidelines: not mentioned. ▪ RH Guidelines and Supervision tools: ITN promotion not mentioned; ITNs should be given to all pregnant women but mechanism not stated; ▪ Pre-service curriculum: ITNs are a component of MIP but distribution not specified.
Diagnosis	▪ Malaria Policy, Malaria Guidelines, training materials and Supervision tools: testing should confirm diagnosis. ▪ RH Guidelines and Pre-service curriculum: diagnosis not mentioned.

MIP Key Area	Findings from Liberia's Documents
Treatment	▪ Malaria Policy: uncomplicated malaria, 1st trimester: oral quinine, dose not specified; 2nd and 3rd trimester AS/AQ, dose not specified; severe malaria; parenteral quinine or artemether, not clear if for all adults as well as pregnant women, dose not specified. ▪ Malaria Guidelines: uncomplicated malaria 1st trimester, oral quinine 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters AS/AQ, dose not given; severe malaria: parenteral quinine for all trimesters, 20 mg/kg loading dose, then 10 mg/kg every 8 hours for at least 3 infusions, then oral treatment if possible to complete 7 days of treatment. May use artemether in 2nd and 3rd trimesters, IM 3.2 mg/kg on day 1, then 1.6 mg/kg/day for 2 days. ▪ RH Guidelines: uncomplicated malaria, 1st trimester, oral quinine 600 mg every 12 hours for 7 days; ACT recommended in 2nd and 3rd trimesters, drugs and doses not given. Severe malaria, trimesters not specified: IV quinine 20 mg/kg loading dose, then 10 mg/kg every 8 hours; when able start orally 600 mg every 12 hours for 6 days. Mentions artemether 3.2 mg.kg loading dose then 1.6 mg/kg on days 2 and 3, then AS/AQ for 3 days but trimesters not specified. ▪ Training materials: Uncomplicated malaria: oral quinine, dose 30 mg/kg 2 times/day for 7 days (note discrepancy in dose) in all trimesters, AS/AQ can be used in 2nd and 3rd trimesters, artesunate 4 mg/kg and amodiaquine 10 mg/kg for 3 days, number of tablets not given. Severe malaria: IV quinine, loading dose 20 mg/kg the 10 mg/kg twice, then oral quinine 30 mg/kg daily for 6 days. IM artemether not for use in 1st trimester but ok in 2nd and 3rd, dose not given. ▪ Supervision tools refer the reader to "national guidelines." ▪ Pre-service curriculum: Uncomplicated malaria, 1st trimester: oral quinine 10 mg/kg 3 times/day for 7 days, and clindamycin 10 mg/kg twice daily for 7 days; 2nd and 3rd trimesters: artesunate and clindamycin (same dose as above) for 7 days, or same treatment as 1st trimester. Severe malaria: prior to referral full dose of parenteral antimalarials; in 1st trimester quinine is the drug of choice, but in its absence artemether may be used; second and third trimesters: IM or IV artesunate is the first and artemether the second option, no doses given.

Recommendations

1. None of the documents reviewed are consistent, and none reflect the WHO 2012 recommendations. All must be updated with complete information about timing and intervals for administration of IPTp-SP, along with the name of the drug and dose and use of DOT.
2. The RH Guidelines and training materials mention not giving SP to women on folic acid, but the dose of folic acid is not specified, and the length of time between SP administration and resuming folic acid is not given. All materials must recommend 0.4 mg of folic acid daily and state that IPTp-SP is compatible with this dose.
3. Only the RH Guidelines specify that HIV+ women on CTX should not receive IPTp-SP; all other documents need to include this recommendation.
4. Only the Malaria Policy and training materials mention ITN promotion and distribution; all other documents need to be updated with this information.
5. The RH Guidelines and pre-service curriculum should recommend need for confirmation of malaria diagnosis by microscopy or RDT.
6. Only the pre-service curriculum gives correct and nearly complete treatment information; all other documents give incorrect and/or incomplete information. These must be updated per the WHO 2010 treatment guidelines to provide information on drugs and doses by trimester for uncomplicated and severe malaria.

Madagascar

The documents reviewed are indicated in Table 4.

MIP Key Area	Findings from Madagascar's Guidance
IPTp timing and dose	▪ Malaria Policy: 1st dose of SP (dose not given) at 16 weeks or quickening, 2nd dose at least 1 month later ▪ RH Policy: IPTp should be available, no specifics on dose/timing given ▪ Malaria Guidelines and training manual: 1st dose of SP, 3 tablets, at 16 weeks, next dose at least 1 month later, no upper limit. ▪ RH Guidelines: 1st dose of SP at >16 weeks, 2nd dose at least 1 month later, no upper limit; dose of SP specified as 2 tablets. ▪ Pre-service training curriculum for BEmONC: Malaria mentioned as a complication in pregnancy, but no specific mention of prevention of treatment of malaria during pregnancy
DOT	▪ Malaria Policy and RH Guidelines: recommended ▪ RH Policy, Malaria Guidelines, and training manual: not specified.
Linkages to HIV	▪ Malaria Policy: per guidelines in references, no other information. ▪ Malaria Guidelines and RH Guidelines: HIV+ women should have 3 doses of IPTp-SP, no mention of CTX. ▪ RH Policy: not mentioned. ▪ Training manual: 3 doses of SP recommended for HIV+ women; states that giving SP to women on CTX can cause "undesirable reactions." Does not state that HIV-positive women should receive daily CTX, but should have 3 doses of IPTp-SP at monthly intervals.
ITN promotion/distribution	▪ Malaria Policy, RH Guidelines, and Malaria Guidelines: counsel on use and give at ANC, mechanism not specified ▪ RH Policy: long-lasting ITNs should be promoted; no specifics on distribution; ▪ Training manual: promotion recommended, distribution not specified.
Diagnosis	▪ Malaria Policy, Malaria Guidelines and training manual: confirm diagnosis with testing ▪ RH Policy and RH Guidelines: not mentioned;
Treatment	▪ Malaria Policy: Uncomplicated malaria, use oral quinine in 1st trimester, ACTs in 2nd and 3rd, doses not given; severe malaria, use injectable quinine, doses and trimesters not given. ▪ Malaria Guidelines: Uncomplicated malaria,1st trimester, use oral quinine 10 mg/kg or 300 mg every 8 hours for 7 days; 2nd and 3rd trimesters use AS/AQ (200 mg/600 mg) daily for 3 days. Severe malaria: IV quinine 20 mg/kg loading dose, then 10 mg/kg every 8 hours; when oral intake tolerated oral quinine in 1st trimester, or ACT in 2nd and 3rd trimesters, doses not given. ▪ RH Policy: treatment should be part of basic package of health services, specifics not given. ▪ RH Guidelines: Uncomplicated malaria, 1st trimester: oral quinine 10 mg/kg every 8 hours for 7 days; 2nd and 3rd trimesters: AS/AQ (200 mg/600 mg) for 3 days. Severe malaria, 1st trimester: IV quinine until oral intake tolerated (dose not specified) then oral quinine per 1st trimester; 2nd and 3rd trimesters: ACTs, dose not specified. ▪ Training manual: Uncomplicated malaria, 1st trimester, oral quinine, 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters AS/AQ, (100 mg/270 mg), 2 tablets daily for 3 days; severe malaria, all trimesters, IV quinine, loading dose 20 mg/kg the 10 mg/kg every 8 hours until oral medication is possible, then quinine 10 mg/kg 3 times/day to total 7 days. Info on MIP scattered in the document; the section on MIP does not contain all information a provider needs.

Recommendations

1. All documents should be updated to reflect all elements of the WHO 2012 recommendations on use of IPTp-SP, including name of drug, correct dose, and timing.
2. All documents must specify use of DOT for administration of IPTp-SP.
3. All documents should give clear recommendations so that HIV+ women on CTX do not receive IPTp-SP.
4. All documents should clarify the mechanism for distribution of long-lasting ITNs to pregnant women as early as possible in pregnancy.
5. The RH Policy and RH Guidelines should state that diagnostic testing must take place before treatment is begun.
6. All documents should update treatment guidelines per WHO 2010 recommendations and include complete information on drugs, doses, and their use by trimester for uncomplicated and severe malaria.

Malawi

The documents reviewed are indicated in Table 4. In March 2014, MCHIP staff stated that all documents were undergoing revision.

MIP Key Area	Findings from Malawi's Documents
IPTp timing and dose	▪ Malaria Guidelines and Training materials 1 (National Training Guidelines for Diagnosis, Treatment and Prevention of Malaria in Malawi; a training manual for health workers): at least 3 doses of IPTp-SP, 3 tablets, after the 1st trimester (also states after quickening), at least 1 month apart at every scheduled ANC visit up to time of delivery. ▪ Training materials 2 (Control and Prevention of Malaria during Pregnancy: Training Manual for Healthcare Providers RH Guidelines, draft): First dose after quickening (weeks not mentioned); next dose at least one month later; total of 3 doses up to time of delivery (other sections of the document say to give SP twice, not later than 36 weeks; later it states to give the first dose at 16 weeks gestation or more). Do not give folic acid >5 mg with SP, time period not specified. ▪ RH Guidelines: SP (dose not stated) at 26 and 32 weeks; iron tablets (folic acid not mentioned) should be suspended for 1 week after giving SP.
DOT	▪ All documents recommend use of DOT.
Linkages to HIV	▪ Malaria Guidelines and training materials 1 and 2 state that IPTp-SP should not be given to women on CTX. ▪ RH Guidelines do not mention linkages to HIV.
ITN promotion/distribution	▪ Malaria Guidelines: not mentioned. ▪ RH Guidelines and training materials 1 and 2 recommend promotion and distribution at ANC.
Diagnosis	▪ Malaria Guidelines and training materials 1: confirmatory testing recommended. ▪ Training materials 2: need for confirmatory testing implied in case studies, not explicit in text. ▪ RH Guidelines: not mentioned;
Treatment	▪ Malaria Guidelines: uncomplicated malaria, 1st trimester, oral quinine, 600 mg every 8 hours for 7 days, with clindamycin 300 mg every 8 hours for 7 days; 2nd and 3rd trimesters AL, 4 tablets stat then 4 in 8 hours, then 4 tablets twice daily to complete 3 days of treatment. Severe malaria, 1st trimester: parenteral quinine, 20 mg/kg loading dose, then 10 mg/kg every 12 hours for at least 24 hours, then give oral quinine (600 mg every 8 hours and clindamycin (300 mg/kg every 8 hours). 2nd and 3rd trimester: Parenteral artesunate 2.4 mg/kg body weight IV bolus or IM on admission (at 0 hour), repeat at 12 hours and at 24 hours, then once daily, for no more than 6 days. Once patient can take oral treatment and after at least 24 hours of parenteral therapy commence a full course of AL to complete 7 days of treatment. Pregnant women in the second and third trimester can be treated with parenteral quinine if parenteral artesunate is not available or contraindicated. ▪ RH Guidelines: not mentioned. ▪ Training materials 1: (Guidelines for Diagnosis, Treatment and Prevention of Malaria in Malawi; a training manual for health workers): uncomplicated malaria, 1st trimester, oral quinine (600 mg every 8 hours and clindamycin 300 mg twice daily) for 7 days; 2nd and 3rd trimesters AL, dose not given; severe malaria: 1st trimester parenteral quinine, 20 mg/kg loading dose then 10 mg/kg every 12 hours for 24 hours then switch to oral quinine and clindamycin to complete 7 days of treatment; 2nd and 3rd trimesters IM/IV artesunate, 2.4 mg/kg body weight IV bolus or IM on admission (at 0 hour), repeat at 12 hours and at 24 hours, then once daily, for no more than 6 days; switch to AL orally when able after at least 24 hours of parenteral treatment. ▪ Training materials 2: (Control and Prevention of Malaria during Pregnancy: Training Manual for Healthcare Providers – draft). Uncomplicated malaria, 1st trimester: oral quinine, 10 mg/kg every 8 hours for 5 days. 2nd and 3rd trimesters: SP, 3 tablets, if she has not taken it within the last 3 weeks; (earlier in the manual it is stated not to treat malaria with SP) Severe malaria: Give 900 mg of quinine in 1 liter of 5% dextrose over 3 hours and refer to appropriate facility

Recommendations

1. Only the Malaria Guidelines and Training Materials 1 follow the WHO 2012 recommendations on IPTp-SP use, although it is recommended to give the 1st dose at 13 weeks or after quickening, which could cause confusion among providers. All other documents should be updated and provide complete information on timing and dose of IPTp-SP.
2. All documents should recommend use of folic acid 0.4 mg daily during pregnancy (not 5 mg daily). IPTp-SP is compatible with the lower dose. The RH Guidelines state that iron tablets should be suspended for 1 week after SP, without mentioning folic acid; this statement should be corrected.
3. The RH Guidelines should be amended to include prevention of MIP for HIV+ women not on cotrimoxazole.
4. The Malaria Guidelines should recommend promotion of long-lasting ITN use and specifics of distribution to pregnant women as early in pregnancy as possible.
5. The RH Guidelines and training materials 2 should explicitly state the need for confirmatory testing prior to treatment of suspected malaria.
6. All documents should be updated to reflect WHO 2010 treatment guidelines. The training materials 2 are in particular need of update and provision of clear treatment recommendations.

Mali

The documents reviewed are indicated in Table 4.National RH policy and guidelines are combined into one document. No materials specific to pre-service education were reviewed; the FANC reference manual for in-service education is used by nursing and midwifery schools. Anecdotal input to further illustrate the key findings was not received for Mali.

MIP AREA	KEY FINDINGS FROM MALI'S GUIDANCE
IPTp timing and dosing	▪ While the malaria policy and the malaria case management guidelines mention the importance of IPTp-SP, they do not specify timing or dose of SP during ANC. ▪ The RH policy and guidelines state that IPTp-SP should be part of ANC, but no guidance on dosing is given. ▪ Only the guidelines for free distribution of IPTp and the FANC reference manual specify dosing. ▪ Guidance on timing of IPTp-SP varies across documents, specified either in weeks (at 24–28 weeks and at 32–36 weeks) or months (give twice between months 4 and 8). ▪ The FANC reference manual specifically advises against IPTp in the last month of pregnancy. ▪ The FANC reference manual advises the suspension of folic acid for one week after receiving IPTp.
DOT	▪ Only the guidelines for free distribution of IPTp, the FANC reference manual, and supervision guide mention IPTp by DOT. ▪ The guidelines for free distribution of IPTp specify that the pregnant woman receive a prescription at ANC to take to a pharmacist for DOT, whereas the supervision guide specifies IPTp by DOT during ANC.
Linkages to HIV	▪ The FANC reference manual states that HIV+ pregnant women should receive three doses of SP unless they are on daily cotrimoxazole. ▪ The guidelines for free distribution of IPTp state that HIV+ women should receive three doses of SP but do not mention management of women on cotrimoxazole.
ITN promotion/ distribution	▪ All documents except the malaria policy and malaria case management guidelines state that pregnant women should be counseled on use of ITNs. ▪ The RH policy and guidelines do not mention distribution, while the other documents specify ITNs should be free at the first ANC visit. ▪ The malaria guidelines for free distribution of IPTp state that a pregnant woman should receive a prescription for an ITN at the first ANC visit to redeem at a pharmacy.
Diagnosis	▪ The RH policy and guidelines and the guidelines for free distribution of IPTp do not mention diagnosis. ▪ All other documents reviewed state that diagnosis of malaria with microscopy or RDTs should be done whenever possible prior to treatment.

MIP AREA	KEY FINDINGS FROM MALI'S GUIDANCE
Treatment	▪ The malaria guidelines for case management recommend oral quinine for first trimester, and ACTs subsequently for uncomplicated malaria, but do not give specific doses. Parenteral quinine is recommended for severe malaria in all trimesters, and dose is given; also states that ACTs can be used beyond first trimester but does not specify doses. ACTs can be used beyond first trimester though it is difficult to discern doses to be used in pregnancy. ▪ The supervision guide uses a checklist to observe care and mentions quinine and ACTs, but not use by trimester or doses. ▪ The malaria guidelines name the medications to be used by trimester but not their doses. ▪ The FANC manual does not specify the dose of oral quinine to be used for uncomplicated malaria in the first trimester, but does specify use of ACTs for second and third trimester use. ▪ The information on treatment of MIP in both the malaria guidelines and the FANC manual is not delineated in a separate section, making it difficult to discern the correct medications and their doses for uncomplicated and severe malaria in the three trimesters of pregnancy. ▪ The RH policy and guidelines document does not mention diagnosis or treatment of MIP.

Recommendations

1. The Reproductive Health Policy and Guidelines; the National Malaria Control Program (NMCP) Guidelines for Management and Distribution of Free long-lasting ITNs to Pregnant Women and Under 5s and SP to Pregnant Women; the Malaria Policy; Malaria Guidelines; and the NMCP Strategic Plan to Fight Malaria, 2007–2011 should be reviewed in the context of the new WHO guidance on timing and dosing of IPTp-SP. Revised guidance should be complete and consistent across all documents and quickly disseminated to all levels of the health system. In-service training and supervision materials should also be revised according to the new guidance, using language that is consistent across documents.
2. The FANC reference manual is the only document to state that use of folic acid should be suspended for one week after IPTp. The WHO recommends 30–60 mg of elemental iron/day and 0.4 mg of folic acid/day during pregnancy. If high doses of folic acid (>0.4mg/day according to WHO guidelines) are being used in Mali, the DRH should be engaged to change this practice, as stopping folic acid for even a week after IPTp causes confusion for providers and women.
3. The importance of DOT should be stated in both the national malaria policy and malaria guidelines.
4. All documents should reflect the WHO guidelines on use of IPTp for women who are HIV+.
5. All documents should be harmonized to state the importance of promotion of long-lasting ITNs as well as the mechanism to distribute them.
6. Information on treatment of MIP is not mentioned in the RH policy and guidelines, and is incomplete across other documents. A user-friendly, updated job aid for treatment of uncomplicated and severe malaria in all trimesters of pregnancy should be developed and included in all national-level documents dealing with MIP.

Mozambique

The documents reviewed are indicated in Table 4.

MIP AREA	KEY FINDINGS FROM MOZAMBIQUE'S GUIDANCE
IPTp timing and dosing	▪ The malaria policy and RH policy do not mention windows of time for administration. ▪ The malaria policy, malaria guidelines, and NMCP two-day in-service package specify at least two doses of IPTp, while the RH guidelines, maternal and newborn health (MNH) performance standards, and MNH nursing curriculum state three doses. The MOH in-service package does not specify number of doses. ▪ All documents, except the malaria policy, RH policy, and MOH supervision manual recommend IPTp starting at 20 weeks or after quickening and at least one month apart. ▪ The MOH supervision manual recommends register/record reviews to determine if IPTp is given correctly, but does not give a definition of what is "correct" IPTp administration. ▪ Only the RH guidelines, MOH in-service package, MNH performance standards, and MNH nursing curriculum specify three tablets of SP.
DOT	▪ All documents mention SP administration by DOT except the RH policy and MOH supervision manual.
Linkages to HIV	▪ The malaria policy, malaria guidelines, RH policy, MOH supervision, and MNH performance standards do not mention use of IPTp for HIV+ women. ▪ The RH guidelines and MNH nursing curriculum specify three doses of IPTp for HIV+ pregnant women, unless on cotrimoxazole or antiretrovirals; it is not clear if women on antiretrovirals also receive cotrimoxazole. ▪ The NMCP two-day in-service package states that in areas where HIV prevalence among pregnant women is >10% a third dose of IPTp should be given; no mention of contraindication for cotrimoxazole. ▪ The MOH in-service package mentions use of IPTp for HIV+ women, but no mention of number of doses or contraindication for cotrimoxazole.
ITN promotion/distribution	▪ ITN promotion is not mentioned in the malaria guidelines, RH policy, supervision tools, or performance standards. ▪ The malaria policy recommends that all pregnant women receive a free long-lasting ITN during ANC; the malaria guidelines specify first ANC visit. ▪ The RH guidelines, MNH nursing curriculum, and the two in-service packages recommend promotion of ITNs. ▪ Means of ITN distribution is not mentioned in the malaria and RH policies, RH guidelines, MNH nursing curriculum, or the two-day in-service education package. ▪ The MOH supervision manual requires a register review to ensure that ITNs are given during ANC. The MNH performance standards include a criterion on furnishing the ITN at the first ANC visit and on counseling women about ITNs.
Diagnosis	▪ The only document not recommending diagnosis via microscopy or RDT prior to treatment is the national RH policy.
Treatment	▪ The national malaria policy recommends appropriate treatment, free of charge at all levels. ▪ The national malaria and RH policies do not include treatment guidance. ▪ The MOH supervision manual mentions treatment but refers the user to other national guidelines. ▪ The national malaria guidelines, national RH guidelines, and the two-day NMCP and MOH in-service training packages all recommend oral quinine in the first trimester and ACTs in the second and third trimesters for women with uncomplicated malaria, and IV quinine for women with severe malaria in the first trimester, then intramuscular (IM)/IV artesunate in the second and third trimesters, per WHO guidelines. ▪ The MNH performance standards recommend oral quinine for women with uncomplicated malaria in the first trimester, but no information is given about treatment in the second and third trimesters. Prompt referral is required for women with severe malaria. The standards for care of the woman at the hospital level with severe malaria in the first trimester is parenteral quinine and for second and third trimesters parenteral artesunate, per WHO standards.
Additional information	

Recommendations

1. All guidelines from the malaria and RH divisions, along with the in-service training packages, should be reviewed and updated, as well as harmonized, to reflect the current WHO guidance for IPTp and promotion and distribution of long-lasting ITNs. Stockouts of SP at ANC clinics should be resolve. The MOH and its malaria partners have begun revising MIP training materials and service delivery guidelines to reflect WHO's updated policy recommendation for IPTp. Coordination meetings and guideline revisions occur at the national level between the RH and malaria control programs. Trainings are also collaborative (i.e., MCH nurses are included in trainings on malaria).
2. Use of IPTp for HIV+ women should be clarified in all documents.
3. The national RH policy should state the need for diagnosis of malaria with microscopy or RDTs prior to treatment.
4. The national RH policy should make specific recommendations on the availability of services to prevent and treat MIP as part of emergency obstetric and newborn care (EmONC). RH guidelines should offer more specific guidance to providers about integrating all aspects of MIP into ANC: prevention, diagnosis, and treatment. (Clindamycin for treatment of uncomplicated malaria in the first trimester is not feasible, likely due to its high cost. If malaria is diagnosed by the ANC provider, that same provider treats the woman. In larger facilities, the woman will be treated in the emergency department.)
5. Supervision tools should include performance criteria to measure the ability of the provider to manage all aspects of MIP: IPTp, provision of long-lasting ITNs, and case management.
7. Implement the action plan outlined in the *Mozambique MIP Country Update: Accelerating Malaria in Pregnancy Programs to Achieve Country Scale-Up, May 2012*, specifically improved coordination between RH and NMCP to accelerate MIP programming, improved IEC and BCC through partner organizations to sensitize the public about early and consistent attendance at ANC, and improved supply chain management to decrease stockouts of SP.

Nigeria

The documents reviewed are indicated in Table 4.

MIP Key Area	Findings from Nigeria's Documents
IPTp timing and dose	▪ Malaria Policy: 2 doses of SP, number of tablets not mentioned, after quickening, 2nddose at least 1 month later. ▪ RH Policy: Malaria as a cause of maternal mortality is noted; no other specific information is given on MIP. ▪ Malaria Guidelines 1 (National Guidelines for Diagnosis and Treatment of Malaria) and Training materials: 2 doses of SP, 3 tablets; 1st after quickening, 2nd at least 1 month later. ▪ Malaria Guidelines 2 (National Guidelines and Strategies for Malaria Prevention and Control during Pregnancy, draft): Give 3 tablets of SP at 13 weeks and repeat at least one month apart up to 3 doses or more. One section states: "As early as possible in the second trimester (first fetal movement–from 13 weeks"). Folic acid 0.4 mg can be taken with SP.
DOT	▪ All documents recommend use of DOT.
Linkages to HIV	▪ All documents state that women on CTX should not take IPTp-SP;
ITN promotion/distribution	▪ Malaria Policy: promotion recommended, distribution not specified. ▪ Malaria Guidelines 1: promotion and distribution not mentioned. ▪ Malaria Guidelines 2: long-lasting ITN use should be promoted and given at ANC clinics or other private and public sector outlets. ▪ Training materials: promotion recommended, distribution at ANC as early as possible
Diagnosis	▪ All documents recommend confirmatory testing.

MIP Key Area	Findings from Nigeria's Documents
Treatment	▪ Malaria Policy: uncomplicated malaria, 1st trimester: oral quinine, 10 mg/kg every 8 hours for 7 days; 2nd and 3rd trimester, AL, dose not given. Severe malaria: quinine and artemisinin safe throughout pregnancy but doses not specified. ▪ Malaria Guidelines 1: uncomplicated malaria, 1st trimester, oral quinine, 10 mg/kg every 8 hours for 7 days; 2nd and 3rd trimesters, AL, 4 tablets twice daily for 3 days; severe malaria, 1st trimester, parenteral quinine, 20 mg/kg loading dose then 10 mg/kg every 8 hours for at least 24 hours, then oral AL to complete treatment. 2nd and 3rd trimesters, parenteral artesunate, 2.4 mg/kg, repeat in 12 hours, then daily until oral meds can be given, or quinine per 1st trimester. ▪ Malaria Guidelines 2: Uncomplicated malaria: oral quinine safe in all trimesters, 10 mg/kg up to 600 mg 3 times/day for 7 days; 2nd and 3rd trimesters: AL, 4 tablets twice daily for 3 days; severe malaria: 1st line treatment in all trimesters is parenteral artesunate, 2.4 mg/kg stat, and at 12 and 24 hours, then full course of oral ACTs. Or can use parenteral quinine 20 mg/kg loading dose, then 10 mg/kg every 8 hours for at least 24 hours, then orally when able. ▪ Training materials: uncomplicated malaria same as given in malaria guidelines; severe malaria: IV artesunate, if not available IV quinine, trimesters and doses not specified, unless reader goes back to section on general adult use.

Recommendations

1. Only the Malaria Guidelines 2 reflect the WHO 2012 recommendation for IPTp-SP use, though the phrase "as early as possible in the second trimester (first fetal movement–from 13 weeks)" could cause confusion among providers and should be clarified. All other documents should be updated and be made consistent.
2. All documents should be made consistent with the recommendations on long-lasting ITN promotion and distribution as described in the Malaria Guidelines 2 and the training materials, and details on distribution should be given in all documents.
3. All documents reflect WHO 2010 treatment guidelines to the extent that they specify drugs and doses, but the Malaria Policy and training materials should state doses of all drugs by trimester for uncomplicated and severe malaria.

Rwanda

The documents reviewed are indicated in Table 4. In March 2014, MCHIP staff stated that documents were undergoing revision.

MIP Key Area	Findings from Rwanda's Documents
IPTp timing and dose	▪ RH Policy (2003) states systemic preventive treatment should be offered in endemic areas but this has been superseded by the Malaria Strategic Plan that suspended use of IPTp-SP in 2008. ▪ Since IPTp-SP use was stopped in 2008, the Malaria Guidelines, RH Guidelines and FANC training materials do not mention use of IPTp.
DOT	Not applicable
Linkages to HIV	▪ Malaria Guidelines, RH Policy and RH Guidelines: not mentioned ▪ FANC training package: women on CTX are protected against malaria
ITN promotion/distribution	▪ Malaria Guidelines: ITNs should be promoted especially to under-5s and pregnant women and distributed in ANC. ▪ RH Policy, RH Guidelines and FANC training package: ITNs should be promoted in ANC., distribution not specified.
Diagnosis	▪ Malaria Guidelines and FANC training package: All cases should be confirmed using microscopy or RDT. ▪ RH Policy: not mentioned. ▪ RH Guidelines: perform thick film, no mention of RDT.

MIP Key Area	Findings from Rwanda's Documents
Treatment	▪ Malaria Guidelines: Uncomplicated malaria, 1st trimester: oral quinine 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters: AL, 4 tablets twice daily for 3 days. Severe malaria: 1st trimester, prior to referral parenteral quinine 20 mg/kg loading dose then 10 mg/kg every 8 hours until oral intake is possible, oral quinine to compete 7 days of treatment. 2nd and 3rd trimesters: artemether 3.2 mg/kg IM prior to referral. If quinine is used it should be given as 10 mg/kg every 8 hours for 48 hours, complete 3-day treatment with AL orally. ▪ RH Policy: not mentioned. ▪ RH Guidelines: uncomplicated malaria, 1st trimester – oral quinine, refer to treatment guidelines; 2nd and 3rd trimesters – AL, refer to treatment guidelines; severe malaria – refer to treatment guidelines. ▪ FANC training package: uncomplicated malaria 1st trimester: oral quinine, 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters AL, "usual adult dose." Severe malaria: 1st trimester, IV quinine loading dose20 mg/kg and refer; 2nd and 3rd trimesters, artemether 3.2 mg/kg loading dose, then refer. Accompanying table shows parenteral maintenance dose of 10 mg/kg every 8 hours for 3 days – no mention of starting oral medication and completing 7 days of treatment.

Recommendations

1. Distribution mechanism for ITNs should be described clearly in all documents, emphasizing that they should be given at the first ANC visit.
2. The RH Policy and RH Guidelines should recommend both microscopy and RDTs as ways to confirm cases of malaria prior to treatment.
3. The RH Guidelines mention drugs to be used for treatment but not doses; reference is made to treatment guidelines. All drugs and doses for uncomplicated and severe malaria, by trimester, should be specified and consistent with other documents as maternal health providers will use this document.
4. The FANC training package should mention complete treatment for all trimesters for uncomplicated and severe malaria.

Senegal

The documents reviewed are indicated in Table 4. At the time of this review, the national malaria guidelines were being revised and not available for review.

MIP Key Area	Findings from Senegal's Documents
IPTp timing and dose	▪ National RH Policy: mentions importance of prevention of malaria during pregnancy but no other specifics. ▪ National RH Guidelines: 1st dose of SP, 3 tablets, at 16 weeks or perception of fetal movement; 2nd dose at 28 weeks. All doses should be at least 1 month apart. ▪ Training manual for treatment of malaria, participant guide: 1st dose of SP, 3 tablets, at 16 weeks or quickening; 2nd dose between 28 and 34 weeks (woman must eat before taking SP if she has been fasting).
DOT	▪ National RH Guidelines and training materials: recommended
Linkages to HIV	▪ National RH Guidelines: HIV+ women receive a 3rd dose of SP at least 1 month after the 2nd; no mention of women on CTX. ▪ Training materials: 3rd dose of SP to be given at least 1 month after the 2nd, but SP not to be used for women on CTX.
ITN promotion/distribution	▪ RH Guidelines and training materials: long-lasting ITN use should be promoted, and a prescription is given at the 1st ANC visit but where it is redeemed is not specified.
Diagnosis	▪ RH Guidelines and training materials: Diagnosis should be confirmed by microscopy or RDT.
Treatment	▪ RH Guidelines: uncomplicated malaria: treatment not specified; severe malaria: 25 mg/kg/day of quinine either every 8 or 12 hours for 5–7 days; may go to ACTs when oral intake is possible; trimesters not specified. ▪ Training materials: The document suggests that any malaria in a pregnant woman should be considered "grave," and the only treatment guideline for MIP is for severe malaria. Although adults with uncomplicated malaria should be given AL or AS/AQ, use of ACTs in pregnancy is not mentioned; there is no guideline for oral quinine in the 1st trimester. For severe malaria: parenteral quinine, 25 mg/kg/day in 2 – 3 divided doses for 5 – 7 days; use oral quinine (dose not given) when patient can tolerate oral intake.

Recommendations

1. All documents should be updated to reflect WHO 2012 recommendations for use of IPTp-SP. The requirement to have women eat before taking SP should be eliminated.
2. The RH Guidelines should reflect that HIV+ women taking CTX should not take SP.
3. All documents should specify how a long-lasting ITN is obtained during pregnancy.
4. All documents should update treatment guidelines to reflect WHO 2010 treatment recommendations and should specify drugs and doses by trimester for uncomplicated and severe malaria.

Tanzania

The documents reviewed are indicated in Table 4.A national malaria policy separate from the malaria guidelines does not exist. There is also a national health policy (but no separate national RH policy), and it does not address MIP. The National Policy Guidelines for Reproductive and Child Health, 2003, do not address MIP.

MIP AREA	KEY FINDINGS FROM TANZANIA'S GUIDANCE
IPTp timing and dosing:	▪ The malaria guidelines, FANC in-service education package, and pre-service education package recommend two doses of IPTp-SP, the first at 20–24 weeks and the second at 28–32 weeks. ▪ The FANC quality improvement (QI) tool states to give IPTp-SP at 20 weeks or more, but does not give information on subsequent doses or the number of doses to be given. ▪ All documents reviewed specify three tablets of SP, with doses at least one month apart.
DOT	▪ All documents reviewed recommend use of DOT.
Linkages to HIV	▪ Neither the FANC in-service education package nor the pre-service package gives guidance on IPTp use for HIV+ women. ▪ The malaria guidelines state that HIV+ women should have three doses of IPTp with SP (no timing is given) or daily cotrimoxazole. ▪ The FANC QI tool says that if the woman's CD4 count is <350 she should receive daily cotrimoxazole. The tool also states that cotrimoxazole should then be suspended to give three doses of IPTp at least one month apart, though timing is not stated. The tool does not mention whether or when cotrimoxazole should be resumed.
ITN promotion/distribution	▪ All documents recommend counseling on ITN use. ▪ Only the FANC QI tool mentions distribution, specifying that the woman should receive a voucher to buy an ITN, but no mention of when to give the voucher or where to redeem it.
Diagnosis	▪ The national malaria guidelines and the FANC in-service package recommend diagnosis via microscopy or RDTs for anyone admitted with severe malaria. ▪ The FANC QI tool states that microscopy or RDTs should be used prior to treatment. ▪ The pre-service education package makes no mention of diagnosis.
Treatment	▪ The national malaria guidelines and the pre-service education package recommend oral quinine for women with uncomplicated malaria in the first trimester, and ACTs in the second and third trimesters, in accord with protocols for non-pregnant adults. ▪ The FANC in-service package and QI tool recommend oral quinine for uncomplicated malaria in the first trimester, but specific doses are not provided. ACTs are recommended for uncomplicated malaria in the second and third trimesters. ▪ For women with severe malaria in all trimesters, IV quinine is recommended by the in-service and pre-service education documents. ▪ The FANC QI tool recommends immediate referral of women with severe malaria, with a loading dose of IV quinine if a delay is anticipated.
Additional information	▪ An additional document reviewed, The National Road Map Strategic Plan for the Acceleration of Reduction of Maternal and Newborn Mortality, 2008–2015, gives support for training of providers in quality ANC, use of ITNs, and includes an indicator for use of two doses of IPTp.

Recommendations

1. All documents should be reviewed and updated to reflect revised WHO guidance on IPTp use, especially timing of IPTp and use for HIV+ women, as well as clear guidance about distribution of long-lasting ITNs with the voucher (a voucher should be given at the first ANC visit; the ITN cost is about $0.30) and diagnosis of malaria prior to treatment (per PMI this has taken place). Stockouts of SP and ITNs should be resolved.
2. If a newer version of the National Policy Guidelines for Reproductive and Child Health Services is available, it too should be reviewed for recommendations about prevention and treatment of MIP.
3. Implement the action plan as described in the *Tanzania MIP Country Update: Accelerating Malaria in Pregnancy Programs to Achieve Country Scale-Up, May 2012*, including: improving forecasting of commodity use to decrease stockouts of SP, strengthening community involvement and demand creation, and strengthening integration and planning between RH and NMCP to improve uptake of IPTp. An MIP task force was established recently comprising NMCP, RH, and other partners. Discussions are under way at the MOH to determine how to incorporate WHO's updated policy recommendation for IPTp into guidelines and other documents (per PMI, updates have been made).

Uganda

The documents reviewed are indicated in Table 4.National RH policy and guidelines are combined in one document. Supervision materials were sought, but were not obtained for this review. Uganda has no pre-service education materials specific to MIP.

MIP AREA	KEY FINDINGS FROM UGANDA'S GUIDANCE
IPTp timing and dosing	▪ All documents reviewed recommend two doses of IPTp-SP. ▪ Only the malaria policy, malaria guidelines, and MIP refresher trainer guide specify giving doses at least one month apart. ▪ The malaria policy does not specify timing of IPTp-SP. ▪ All other documents reviewed provide timing of IPTp doses, but in some documents, timing is specified using weeks of pregnancy while others use months, which could cause confusion among providers. ▪ The MOH MIP flow chart states to suspend use of folic acid (5 mg) for one week after taking IPTp-SP.
DOT	▪ All documents recommend use of DOT, except the RH policy and service standards.
Linkages to HIV	▪ Only the MIP refresher training guide addresses HIV+ pregnant women, stating that they should receive three doses of IPTp-SP at monthly intervals after 16 weeks. It is not clearly stated that women on cotrimoxazole should not be given IPTp.
ITN promotion/distribution	▪ Promotion and counseling on ITN use is mentioned in all documents, but only the MIP refresher training guide states that the pregnant woman should receive a free ITN at the first ANC visit.
Diagnosis	▪ The RH policy guidelines and the MOH flow chart mention microscopy results as a way to differentiate between uncomplicated and severe malaria. ▪ The malaria policy states that diagnosis of malaria by microscopy or RDTs should be available in all health facilities. ▪ The malaria guidelines state that diagnosis of malaria by microscopy should be done for all pregnant women with malaria, but that routine use of RDTs to diagnose malaria cases is not recommended. ▪ The MIP refresher training guide recommends confirmatory lab tests before treatment.
Treatment	▪ The malaria control policy recommends quinine in the first trimester and ACTs subsequently, but doses are not given. For severe malaria, parenteral quinine is first-line treatment and ACTs are second line. ▪ The malaria guidelines recommend treating any pregnant woman with a fever for malaria; quinine is the first-line treatment throughout pregnancy, though ACTs can be used after first trimester. Doses are the same as for non-pregnant adults. If referral is needed for severe malaria an IM injection of 600 mg of quinine should be administered. ▪ The RH guidelines do not mention treatment of MIP. ▪ The MIP refresher training guide and the malaria flow chart recommend oral quinine for uncomplicated malaria in all trimesters, although ACTs may be used after the first trimester. For severe malaria, IV quinine is recommended until oral medication starts, which could include ACTs.

Recommendations

1. All documents should be reviewed and updated to reflect all current WHO recommendations for prevention of MIP, including IPTp timing and dose, use of DOT, promotion and distribution of long-lasting ITNs, and diagnosis of malaria.
2. The MOH MIP flow chart needs to be updated to reflect current WHO recommendations on low and high doses of folic acid for daily supplementation with IPTp or for treatment of anemia in pregnancy.
3. All documents reviewed should be updated with consistent guidance on diagnosis, preferably following WHO guidance to confirm all cases with RDTs or microscopy, unless those methods of diagnosis are not available. Specifically the malaria guidelines will need to be updated to reflect the recommendation about RDT use.
4. Treatment guidelines should also be updated to reflect WHO 2010 guidelines, particularly on use of clindamycin concomitantly with quinine if affordable and feasible in Uganda, and use of parenteral ACTs for severe malaria as first-line agents. Specifically the RH guidelines need to be revised to reflect the correct recommendations on treatment of malaria during pregnancy. Of note, however, in Uganda, clindamycin is not used because it is not provided for in the policies nor requested in the budget for malaria treatment. It might be considered with the revision of the policies.
5. Implement the action plan as outlined in the *Uganda MIP Country Update: Accelerating Malaria in Pregnancy Programs to Achieve Country Scale-Up, May 2012*, specifically targeting: improved definition of the roles of RH and NMCP in MIP programming, improved dissemination of policies and guidelines to front-line workers, and improved commodity distribution. An update from Uganda mentioned that coordination is being strengthened between RH and malaria control and roles are being streamlined. The malaria control program works on the policy and both departments implement as a joint venture.
6. MOH is considering WHO's updated policy recommendation for IPTp.

Zambia

The documents reviewed are indicated in Table 4.

MIP Key Area	Findings from Zambia's Documents
IPTp timing and dose	▪ Malaria Guidelines: 1st dose of SP, 3 tablets, after quickening (16 weeks); 2 or more doses at least 4 weeks apart should be given. ▪ RH Policy: Need for 3 doses of IPTp during ANC mentioned; no other specifics. ▪ RH Guidelines: First dose of SP, 3 tablets, after 16 weeks; 2 or more doses at least 4 weeks apart during the 2nd and 3rd trimesters. Folic acid 5 mg recommended throughout pregnancy; no reference to stopping folic acid after SP dose. ▪ Participant training manual for ANC providers: 1st dose of SP, 3 tablets after quickening or after 16 weeks; 2nd dose at least 1 month after the 1st (24 – 28 week visit); 3rd dose at least 1 month after the 2nd at 28 – 36 weeks. ▪ Integrated RH Supervisory Tool: 1st dose of SP, 3 tablets, no earlier than 16 weeks, next dose at least 1 month later; number of doses not mentioned (no mention of suspending 5 mg folic acid after SP).
DOT	▪ Malaria Guidelines: not mentioned; RH Guidelines and training materials: DOT recommended.
Linkages to HIV	▪ Malaria Guidelines, training materials: HIV-positive women on CTX should not receive SP. ▪ RH Guidelines: no mention of HIV+ women in ANC portion of manual; in the HIV section of the manual it is stated that women on CTX should not take SP. ▪ Supervision tool: no mention of HIV+ women taking CTX, should give IPTp-SP and counsel on use of ITN.
ITN promotion/distribution	▪ Malaria Guidelines, training materials: women should be counseled on ITN use but no specifics on distribution. ▪ RH Guidelines: ITNs should be promoted and distributed at ANC. ▪ Supervision tool: ANC provider should counsel women on ITN use; ITN vouchers should be supplied to ANC clinics.
Diagnosis	▪ All documents recommend confirmatory diagnosis with microscopy or RDT.
Treatment	▪ Malaria Guidelines: Uncomplicated malaria, 1st trimester: oral quinine 600 mg 3 times/day for 7 days; 2nd and 3rd trimesters: AL (20 mg/120 mg), 4 tabs twice daily for 3 days. Severe malaria: quinine is 1st line treatment for severe malaria: 20 mg/kg loading dose, then 10 mg/kg every 8 hours until oral meds can be taken, then 10 mg/kg every 8 hours to complete 7 days of treatment. ▪ RH Guidelines: Uncomplicated malaria, 1st trimester: oral quinine, no dose given; 2nd and 3rd trimesters: SP, 3 tablets. Severe malaria: for all trimesters: IV quinine, 20 mg/kg loading dose, then maintenance dose of 10 mg/kg every 8 hours until oral quinine 10 mg/kg every 8 hours can be started, to complete 7 days. ▪ Training materials: Uncomplicated malaria: Refer to national guidelines; quinine can be used in all trimesters, but AL can be used in 2nd and 3rd. Severe malaria: parenteral quinine, 10 mg/kg every 8 hours, then 10 mg/kg orally every 8 hours when able to complete 7 days of treatment

Recommendations

1. Folic acid 0.4 mg needs to be procured, and then when available, all documents should be updated to reflect the WHO 2012 recommendations for IPTp-SP. Documents should also recommend use of 0.4 mg of folic acid daily during pregnancy, which is compatible with IPTp-SP, instead of 5 mg, which is not.
2. The Malaria Guidelines should reflect the need for DOT.
3. The RH Guidelines should place the recommendation that HIV+ women on CTX should not receive SP in the ANC section of the document. The supervision tool should also make this recommendation in the document.
4. All documents should provide specific information on routine distribution of ITNs during ANC regardless of rolling ITN universal coverage campaigns.
5. All documents should be updated to reflect WHO 2010 treatment guidelines, especially the RH Guidelines, which still mention use of SP to treat uncomplicated malaria in the 2nd and 3rd trimesters.

Zimbabwe

The documents reviewed are indicated in Table 4.

MIP Key Area	Findings from Zimbabwe's Documents
IPTp timing and dose	▪ Malaria Policy and MIP Training Manual: 1st dose of SP, 3 tablets at 16 weeks or quickening; 2nd dose at 26–28 weeks, 3rd at 34–36 weeks, at least 1 month apart. ▪ Malaria Guidelines and RH Policy: IPTp not mentioned. ▪ RH Guidelines (2001) recommend IPTp, 3 tablets, by areas of endemicity, first dose at booking in 1st or 2nd trimester, 2nd at 26–28 weeks, 3rd at 34–36, at least 1 month apart. Folic acid 5 mg recommended, no mention of stopping after SP. ▪ Supervision materials: No guidelines stated for prevention or case management of malaria in pregnancy.
DOT	▪ Malaria Guidelines, RH Policy and RH Guidelines – not mentioned. ▪ Malaria Policy and MIP training manual: DOT recommended.
Linkages to HIV	▪ Malaria Policy and MIP training manual: HIV+ women on CTX should not receive IPTp-SP. ▪ Malaria Guidelines, RH Policy and RH Guidelines – not mentioned.
ITN promotion/distribution	▪ Malaria Policy: use of long-lasting ITNs for all citizens is recommended, distribution not specified. ▪ MIP training manual: ITNs should be promoted in ANC but distribution not specified. ▪ Malaria Guidelines, RH Policy and RH Guidelines: promotion and distribution not mentioned.
Diagnosis	▪ Malaria Guidelines and MIP training manual: confirmation of diagnosis by microscopy or RDT should be done. ▪ Malaria Policy, RH Policy and RH Guidelines: diagnosis not mentioned.

MIP Key Area	Findings from Zimbabwe's Documents
Treatment	▪ Malaria Policy: Treatment during pregnancy is not specifically mentioned, but adult treatment of malaria is with AL for uncomplicated malaria, and IV quinine for severe malaria. ▪ Malaria Guidelines: uncomplicated malaria: 1st trimester: oral quinine 600 mg every 8 hours for 7 days, and clindamycin 300 mg every 8 hours for 7 days. 2nd and 3rd trimesters: AL, 4 tablets stat, 4 tablets in 8 hours, then 4 tablets every 12 hours to complete 3 days of treatment. Severe malaria: Pregnancy not specifically mentioned. For all adults: IV quinine, 20 mg/kg loading dose, then 10 mg/kg maintenance dose every 8 hours until oral meds can be tolerated; switch to clindamycin 300 mg every 8 hours to complete 7 days of treatment. ▪ RH Policy: Treatment not mentioned. ▪ RH Guidelines: reader is referred to "current protocols," which are not included in the document. ▪ MIP training manual: Uncomplicated malaria: 1st trimester: oral quinine, 600 mg every 8 hours for 7 days, and clindamycin 300 mg every 8 hours for 7 days; 2nd and 3rd trimesters: AL tablets, 4 at initial dose, 4 tablets after 8 hours; then every 12 hours to complete 3 days of treatment; OR oral quinine 600 mg every hours for 7 days. Severe malaria: quinine IM or IV is the drug of choice for all trimesters until oral medication can be taken. Loading dose 20 mg/kg, then 10 mg/kg every 8 hours, then oral quinine 10 mg/kg every 8 hours to complete 7 days of treatment, in combination with clindamycin 300 mg every 8 hours. After the 1st trimester artemether IM can be given, 3.2 mg/kg as first dose, then 1.6 mg/kg daily.

Recommendations

1. All documents should be updated to reflect WHO 2012 recommendations for use of IPTp-SP.
2. If folic acid 5 mg daily during pregnancy is still being used the policy should be changed to use of folic acid 0.4 mg daily, which is compatible with use of IPTp-SP. Procurement issues should then be addressed to ensure availability of the 0.4 mg/day dose in all ANC clinics.
3. The Malaria Policy, RH Policy, and RH Guidelines should reflect use of DOT.
4. The Malaria Policy, RH Policy, and RH Guidelines should recommend that HIV+ women on CTX should not receive SP.
5. All documents should mention promotion of long-lasting ITNs during pregnancy, and describe the details of net distribution during ANC.
6. All documents should be updated to reflect WHO 2010 treatment recommendations, and should specify drugs and doses by trimester for uncomplicated and severe malaria.

Appendix 1: WHO Guidelines for Malaria Prevention and Treatment in Pregnancy

From Updated WHO Policy Recommendation on Use of IPTp, October 2012
In areas of moderate-to-high malaria transmission, IPTp with SP is recommended for all pregnant women at each scheduled ANC visit. WHO recommends a schedule of four ANC visits.

- The first IPTp-SP dose should be administered as early as possible during the second trimester of gestation.
- Each IPTp-SP dose should be given at least one month apart.
- The last dose of IPTp-SP can be administered up to the time of delivery, without safety concerns.
- IPTp should ideally be administered as directly observed therapy (DOT).
- SP can be given either on an empty stomach or with food.
- Folic acid at a daily dose equal or above 5 mg should not be given together with SP as this counteracts SP's efficacy as an antimalarial. WHO recommends daily iron and folic acid supplementation in pregnant women at the dose of 30–60 mg of elemental iron and 0.4 mg of folic acid, to reduce the risk of low birth weight infants, maternal anemia, and iron deficiency at term.
- SP should not be administered to women receiving cotrimoxazole prophylaxis.

From A Strategic Framework for Malaria Prevention and Control during Pregnancy in the African Region, WHO 2004

- ITNs should be provided to women as early in the pregnancy as possible, at the ANC clinic or through other sources in the public or private sectors.
- Effective case management of malaria illness for all pregnant women in malarious areas must be assured.

From WHO Global Malaria Programme: Position Statement on ITNs, 2007
The WHO Global Malaria Programme recommends distribution of ITNs, more specifically long-lasting ITNs, to achieve full coverage of populations at risk of malaria. The best opportunity for rapidly scaling up malaria prevention is free or highly subsidized distribution of long-lasting ITNs through existing public health services (both routine and campaigns).

From Guidelines for the Treatment of Malaria, Second Edition, WHO 2010
Diagnosis:

- "Prompt parasitological confirmation by microscopy or alternatively by RDTs is recommended in all patients suspected of malaria before treatment is started.
- Treatment solely on the basis of clinical suspicion should only be considered when a parasitological diagnosis is not accessible."

Treatment of uncomplicated malaria: "Pregnant women in the first trimester with uncomplicated falciparum malaria should be treated with quinine plus clindamycin for 7 days (and quinine monotherapy if clindamycin is not available). Artesunate plus clindamycin for 7 days is indicated if this treatment fails." Specifically:

First trimester:

- Quinine plus clindamycin to be given for 7 days (artesunate plus clindamycin for 7 days is indicated if this treatment fails). If clindamycin is unavailable or unaffordable, then quinine monotherapy should be given.

- An ACT is indicated only if this is the only treatment immediately available, or if treatment with 7-day quinine plus clindamycin fails, or if there is uncertainty about patient compliance with a 7-day treatment.

Second and third trimesters:
- ACT known to be effective in the country/region, or artesunate plus clindamycin to be given for 7 days or quinine plus clindamycin to be given for 7 days (with the exception of DHA-PPQ, for which there is insufficient information in second and third trimesters of pregnancy to use as first-line therapy).

HIV infection:
- HIV+ patients who develop malaria should receive prompt, effective antimalarial treatment regimens as recommended in the relevant sections of these guidelines. Treatment or IPTp with SP should not be given to HIV+ patients receiving cotrimoxazole (trimethoprim plus sulfamethoxazole) prophylaxis.

Treatment of severe malaria: Pregnant woman diagnosed with severe malaria should receive complete parenteral antimalarial treatment immediately. Injectable artesunate is preferred over quinine in the second and third trimesters because quinine is associated with recurrent hypoglycemia. In the first trimester, the risk of hypoglycemia is lower and the uncertainties over the safety of the artemisinin derivatives are greater. However, weighing these risks against the evidence that artesunate reduces the risk of death from severe malaria, both artesunate and quinine may be considered as options until more evidence becomes available. Treatment must not be delayed; so if only one of the drugs—artesunate, artemether, or quinine—is available, then it should be started immediately.

Dosages:
Artemether plus lumefantrine (AL): This is currently available as a fixed-dose formulation with dispersible or standard tablets containing 20 mg of artemether and 120 mg of lumefantrineThe recommended treatment is a 6-dose regimen over a 3-day period. The dosing is based on the number of tablets per dose according to predefined weight bands (5–14 kg: 1 tablet; 15–24 kg: 2 tablets; 25–34 kg: 3 tablets; and > 34 kg: 4 tablets), given twice a day for 3 days. This extrapolates to 1.7/12 mg/kg body weight of artemether and lumefantrine, respectively, per dose, given twice a day for 3 days, with a therapeutic dose range of 1.4–4 mg/kg of artemether and 10–16 mg/kg of lumefantrine.

Artemisinins: The only recent change is the higher maintenance dose of parenteral artesunate recommended (2.4 mg/kg body weight), which is based on pharmacokinetic and pharmacodynamic studies, and by extrapolation from studies with oral artesunate.

Quinine treatment for severe malaria was established before modern clinical trial methods were developed. Several salts of quinine have been formulated for parenteral use, but the hydrochloride is the most widely used. Peak concentrations following intramuscular quinine in severe malaria are similar to those following intravenous infusion. Pharmacokinetic modeling studies suggest that a loading dose of quinine (i.e., 20 mg salt/kg body weight—twice the maintenance dose) reduces the time needed to reach therapeutic plasma concentrations. The maintenance dose of quinine (10 mg salt/kg body weight) is administered at 8-hour intervals, starting 8 hours after the first dose. Following initial parenteral treatment, once the patient can tolerate oral therapy, it is essential to continue and complete treatment with an effective oral antimalarial using a full course of an effective ACT (artesunate plus amodiaquine, artemether plus lumefantrine, or dihydroartemisinin plus piperaquine) or artesunate (plus clindamycin or doxycycline) or quinine (plus clindamycin or doxycycline).

Appendix 2: Angola

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Documents	National Strategic Plan for Control of Malaria in Angola 2011–2015, NMCP (draft)	Norms and Directives for Diagnosis and Management of Malaria in Angola (draft, MOH/NMCP 2012)	Strategic Plan for Reproductive Health 2008–2015 (MOH, no date)		Training for Health Workers in Diagnosis and Management of Malaria (MOH, NMCP 2012)	Health facility supervision guide, NMCP (no date)	
IPTp Timing	Not mentioned	First dose at 13 weeks of pregnancy, at least 3 more doses up to time of delivery, at least 1 month apart. Women on 5 mg folic acid daily should not take SP; women should take 0.4 mg folic acid daily in pregnancy to avoid interaction with SP.	Mentions need for IPTp and use of ITNs during pregnancy but no specifics given.		First dose after quickening or between 20–32 weeks, at least one month apart; at least 2 doses total (accompanying job aid says to give at 4 months and 7 months of pregnancy).	First dose no earlier than 20 weeks, or if fetal movement felt; give second dose at least one month later; never give later than 32 weeks.	
IPTp Dose	3 tablets of SP	SP, 3 tablets			SP (500 mg/25 mg), 3 tablets	Specific medication and dose not specified.	
DOTs	Not mentioned	Recommended			Recommended	Recommended	
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	HIV+ pregnant women should have 3 doses of IPTp.	HIV+ pregnant women taking cotrimoxazole should not receive IPTp-SP.			Not mentioned	HIV+ pregnant woman should receive a 3rd dose of IPTp, but not later than 32 weeks. No mention of management of women on cotrimoxazole.	
ITN Promotion	At least one ITN should be available to every 2 people in a household; pregnant women receive priority.	Counseling on use of ITNs should be done.			Counsel on use of ITNs during pregnancy.	ANC provider should counsel woman on use of long-lasting ITN.	

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
ITN Distribution	All pregnant women should receive a net during ANC.	ITNs should be given free of charge at ANC visit.			Not specified	ANC provider should give long-lasting ITN or tell woman where to procure one.	
Diagnosis	RDT or microscopy should be used for diagnosis prior to treatment.	All suspected cases should be confirmed by RDT or microscopy.			Diagnosis of malaria should always be confirmed by microscopy or RDT.	Assess presence/use of RDT and microscopy; if not used assess why not. If malaria suspected by symptoms and physical exam, do RDT or microscopy to confirm. If RDT is negative but malaria still suspected, get microscopy.	
Treatment	Treatment of malaria in pregnancy not specifically mentioned; 80% of the population should have access to appropriate treatment within 24 hours of onset of symptoms.	**Uncomplicated malaria** Oral quinine should be used in 1st trimester but can be used in all trimesters; 2nd and 3rd trimesters: AL (20 mg/120 mg) 4 tablets every 12 hours for 3 days. **Severe malaria** Not clearly specified for pregnancy; quinine can be used in pregnancy but dose not clear with all the edits; adults receive artesunate IV 2.4 mg/kg loading dose, then 1.2 mg/kg every 12 hours for 7 days, but not mentioned specifically for 2nd and 3rd trimesters.			**Uncomplicated malaria** 1st trimester: oral quinine, dose not given; 2nd and 3rd trimesters: AL, 2 tablets/day for 3 days. **Severe malaria**: Not mentioned.	Assess presence of new national norms and treatment guidelines; whether they are followed, and if not, why not. If RDT or microscopy positive: **Uncomplicated malaria:** 1st trimester: oral quinine; 2nd and 3rd trimesters: AL, AS/AQ, or Duo-Coctexin per national guidelines (no doses given); antipyretics for fever. **Severe malaria:** stabilize, give loading dose of injectable quinine and transfer immediately to referral hospital.	

Additional documents reviewed and related noteworthy findings include:

- Manual for prevention and control of malaria during pregnancy: procedures and treatment protocols, for health post and health centers type I and II; from MOH February 2006, division not mentioned but authors are from NMCP and national RH program. Recommend first dose of IPTp at 20 weeks or quickening, not to be given later than 32 weeks; 2 doses one month apart; SP, 3 tabs, by DOT; HIV+ women receive a 3rd dose unless on cotrimoxazole or ARVs. ANC provider should counsel on ITN, give to woman during ANC. Diagnosis by microscopy prior to treatment. Treatment for uncomplicated malaria: 1st trimester – oral quinine 600 mg three times/day for seven days; 2nd and 3rd trimesters: Arsucam (AS/AQ), 8 tabs/day for 3 days; or AL 4 tabs twice/day for 3 days; or oral quinine 600 mg three times/day for seven days. Treatment for severe malaria in health post: stabilize and transfer immediately; health center Type I and II: IV quinine 600 mg 3 times/day until stable, then oral medication, transfer to higher level if complications are present (nuchal rigidity, convulsions, coma).
- PowerPoint presentation on malaria in pregnancy (NMCP, no date). IPTp with Fansidar, 2 doses at least one month apart between 20–32 weeks; third dose for HIV+ women. Treatment for uncomplicated malaria: 1st trimester: oral quinine; 2nd and 3rd trimesters: first line treatment is AL, 4 tabs every 12 hours for 3 days. Severe malaria: quinine IV, loading dose 15–20 mg/kg; maintenance dose 10 mg/kg every 8 hours; alternate treatment is artemether 160 mg IM loading dose, then 80 mg IM for 6 days, or go to oral artemether; or artesunate IV 2.4 mg/kg, then 1.2 mg/kg at 12 and 24 hours, followed by 1.2/kg mg daily for 6 days.
- Document: National Health Policy (GOA, 2010). Mentions importance of providing IPTp and ITNs as part of ANC.

Appendix 3: Benin

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Documents	National Malaria Policy (MOH, NMCP, 2013)	National Guidelines for Treatment of Malaria (MOH, NMCP, 2011)	National Health Policy (no cover page, no logos or dates; document saved as Politique Santé Familiale version 2010); also comprises RH guidelines though they are very general	(Incorporated into National RH policy)	Training on Malaria in Pregnancy – Facilitator's Guide (MOH, 2013)	Integrated Supervision Tool for Malaria Treatment, revised (MOH, NMCP, 2012)	
IPTp Timing	First dose is at beginning of 2nd trimester, up to time of delivery. Number of doses not mentioned	Give IPTp-SP between the 16th and 36th weeks (job aid says 16 weeks or quickening); number of doses not specified; dose interval not specified (job aid says 2 doses at least 1 month apart up to 36 weeks)	No specifics on prevention or treatment of malaria in pregnancy		First dose of IPTp at 16 weeks, 2nd dose at least one month later; may give up to time of delivery If the woman takes folic acid (dose not mentioned), do not take it within 72 hours of SP dose.	Not specified	
IPTp Dose	SP, dose not specified.	SP (500 mg/25 mg), number of tablets not specified (job aid says 3 tablets)			SP, 3 tablets	SP, 3 tablets	
DOTs	Recommended	Recommended			Recommended	Recommended	
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	Not specified	HIV-positive women will begin CTX at 16 weeks.			SP not recommended for HIV+ women on cotrimoxazole	Not specified	

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
ITN Promotion	Long-lasting ITNs should be used by all pregnant women.	Recommended			Counseling on nightly use of long-lasting ITN.	Counseling on prevention recommended but ITNs not mentioned specifically.	
ITN Distribution	Long-lasting ITNs should be given during ANC visits.	Not specified			Not specified	Should be given as a component of the ANC kit, by prescription to the woman and payment at the pharmacy.	
Diagnosis	Confirmation with microscopy or RDTs is obligatory before treatment.	Malaria cases will be confirmed by parasitological diagnosis at all levels of the health system			Confirmation of diagnosis should be done with microscopy or RDTs	Parasitological confirmation recommended.	
Treatment	**Uncomplicated malaria** 1st trimester: oral quinine, dose not stated; 2nd and 3rd trimesters, ACTs (AL and ASAQ are first line ACTs), doses not given. **Severe malaria** 1st trimester: parenteral quinine, dose not stated; can be used in all trimesters; 2nd and 3rd trimesters: parenteral artesunate, dose not specified.	**Uncomplicated malaria** 1st trimester: quinine, dose not given; 2nd and 3rd trimesters: AL (20 mg/120 mg), 4 tablets every 12 hours for 3 days. **Severe malaria** Trimester not specified: IV quinine 10 mg/kg every 8 hours for at least 3 doses, then begin orally when patient is able.			**Uncomplicated malaria** 1st trimester: oral quinine, 10 mg/kg every 8 hours for 7 days; 2nd and 3rd trimesters: AL (20 mg/120 mg), 4 tablets twice daily for 3 days, or AS/AQ (100 mg/270 mg), 1 tablet twice daily for 3 days. **Severe malaria** Parenteral quinine, 10 mg/kg every 8 hours for 7 days; when possible go to oral administration to complete 7 days of treatment.	**Uncomplicated malaria** 1st trimester: oral quinine, dose not mentioned **Severe malaria** Not mentioned	

Additional documents reviewed and related noteworthy findings include:

- National Directives for Routine Distribution of Long-Lasting ITNs, draft 1 (MOH, NMCP, 2013). Long-lasting ITNs are a component of ANC kits for each pregnant woman at the first ANC visit, no matter the gestational age, containing Fe/FA, mebendazole (prescription for kit given to woman by provider, and woman receives kit after paying 500 CFA [1 USD]). Free IPTp-SP 3 tablets by DOT, are given with first dose at 16 weeks (4 months of amenorrhea) or perception of fetal movement; 2nd dose at least one month later, up to 36 weeks. HIV+ women should routinely receive CTX and thus should not receive IPTp-SP. Counsel on long-lasting ITN use.
- Guidelines on Obstetric, Gynecologic and Newborn Nursing Care (MOH, 2008). Mentions that midwives can manage malaria during pregnancy, but no other specifics.

Appendix 4: Democratic Republic of the Congo

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Documents	Declaration of the National Malaria Policy (MOH, 2007)	Technical Guide for Prevention and Treatment of Malaria—reference hospital (MOH, NMCP 2012)	Reproductive Health Policy (MOH, 2008)	Integrated Norms and Directives for Management of MCH; Vol. I: Essential Obstetric Care (MOH, 2011)		Integrated Supervision Tool for Health Centers (no logo, no date, saved as NMCP file)	Integrated Module on Malaria for Basic Nursing, final year (MOH, NMCP 2013)
IPTp Timing	IPTp will be provided to all women during pregnancy, no other specifics given	First dose at 16 weeks (or after quickening); 2nd dose at 28 weeks; if women come outside these weeks SP can be given at least 1 month apart; not given after 32 weeks.	No information on prevention or treatment of MIP	1st dose at 16 weeks or quickening; 2nd dose at 24–28 weeks; 3rd dose at 32 weeks		This tools looks at availability of SP, quinine, ACTs, long-lasting ITNs, and RDTs as well as whether clinical guidelines are present in the clinic, but no guidelines are given in this document.	1st dose at 16 weeks or quickening, 2nd dose at 28 weeks. If women has first dose after 16 weeks the next dose can be given at least one month later.
IPTp Dose	Not mentioned	SP, 3 tablets		SP (500 mg/25 mg), 3 tablets			SP, 3 tablets
DOTs	Not mentioned	Recommended		Recommended			Recommended
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	Not mentioned	HIV+ women should receive 3 doses of SP during pregnancy if not on cotrimoxazole; the 3rd dose is given at 32 weeks.		HIV+ women not taking cotrimoxazole will have a 3rd dose of IPTp-SP at 32 weeks.			HIV+ women should receive 3 doses of IPTp-SP (last one at 32 weeks) unless they are on cotrimoxazole.
ITN Promotion	Women will be counseled on ITN use in ANC	Women should be counseled to use ITNs.		Use of long-lasting ITNs should be promoted.			Teach client to use long-lasting ITN at ANC visit.
ITN Distribution	ITNs should be distributed in ANC as early as possible in the pregnancy	Should be given at ANC.		Should be given at ANC visits.			Give at ANC visit
Diagnosis	Not mentioned	Confirmation with RDT or microscopy recommended.		Suspected cases should be confirmed by microscopy or RDT, but don't delay treatment by waiting for these tests.			Confirmatory testing with RDT recommended.

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Treatment	No specifics given	**Uncomplicated malaria:** All trimesters: oral quinine 10 mg/kg 3 times/day, with clindamycin 10 mg/kg 2/day, both for 7 days; 2nd and 3rd trimesters: can use AS/AQ (100 mg/270 mg), 2 tabs daily for 3 days. **Severe malaria:** Quinine to be used in 1st trimester and for severe malaria, loading dose 20 mg/kg, then maintenance every 12 hours with 10 mg/kg until oral meds can be taken; complete 7 days of treatment; treatment of severe malaria in pregnancy not specifically inferred from text: Injectable artesunate preferred adult treatment, 2.4 mg/kg at 0, 12, and 24 hours, then daily; begin oral treatment when able with AS/AQ to complete 3 days of treatment	**Uncomplicated malaria** 1st trimester: 2nd and 3rd trimesters. **Severe malaria** 1st trimester: 2nd and 3rd trimester:	**Uncomplicated malaria** 1st trimester and last month of pregnancy: oral quinine 10 mg/kg 3 times/day for 7 days; from 16–28 weeks give AS/AQ (200 mg/540 mg), 2 tablets daily for 3 days; **Severe malaria** Reader is referred to guidelines in Volume II for EmONC.			**Uncomplicated malaria** All trimesters: oral quinine, 10 mg/kg 3 x/day for 7 days, with clindamycin 10 mg.kg twice daily for 7 days; in 2nd and 3rd trimesters can use ASAQ (100 mg/270 mg), 2 tabs twice daily for 3 days. **Severe malaria** Parenteral quinine, 20 mg/kg loading dose, then 10 mg/kg maintenance every 12 hours until oral meds can be taken; assume this is for all trimesters as section on treatment in pregnancy is unclear about this.

Additional documents reviewed and related noteworthy findings include:

- National Malaria Strategic Plan 2013–2015 (MOH, NMCP, 2013): Recommends four doses of IPTp-SP, timing not mentioned; DOT not mentioned; HIV+ women not mentioned in light of four-dose regimen; distribution of free long-lasting ITNs during ANC; confirmation of malaria cases by microscopy or RDT recommended; no specifics on treatment of malaria in pregnancy.

Appendix 5: Ethiopia

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Documents	National Strategic Plan for Malaria Prevention, Control and Elimination in Ethiopia 2010–2015 (MOH, 2009)	National Malaria Guidelines, 3rd Edition (MOH, 2012)	National Reproductive Health Strategy, 2006–2015 (MOH, 2006)		National BEmONC Training Manual (draft, MOH, 2013)		
IPTp Timing	"Intermittent presumptive treatment for pregnant mothers…is not included as an approach as the rate of placental parasitemia is found to be low and malaria transmission is largely unstable. To protect pregnant mothers…other protective measures, such as use of long-lasting ITNs and early diagnosis and prompt treatment are recommended."	"IPTp with SP is not recommended in Ethiopia."	N/A		N/A		
IPTp Dose	N/A	N/A	N/A		N/A		
DOTs	N/A	N/A	N/A		N/A		
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	Not mentioned	"Treatment of malaria is similar in HIV-infected and HIV-uninfected patients. There is limited information regarding drug interaction between anti-malarial and antiretroviral drugs. Pharmaco-vigilance is recommended to document observed interactions."	Not mentioned		Not mentioned		
ITN Promotion	Long-lasting ITNs to be promoted and distributed at all levels of system—from community to facility but specifics on how to reach pregnant women are not discussed.	To be discussed by health workers and HEWs at all ANC visits; social marketing and regional campaigns; also through community-based social communication, mass media, information, education, and communication.	Not mentioned		Advise to use ITNs		

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
ITN Distribution	Goal is that at least 80% of pregnant women sleep under a net but distribution to or procurement by pregnant women not specifically discussed.	Long-lasting ITNs can be distributed by the following mechanisms: ▪ Providing one long-lasting ITN to every newly pregnant woman in selected kebeles over a one-year period. The role of HEWs will be to maintain records of long-lasting ITNs in their health posts and provide one new long-lasting ITN to every pregnant woman that attends ANC services, either at the health post or health centers or through home visits by HEWs; ▪ Providing long-lasting ITNs to households with children and pregnant women not currently being protected with long-lasting ITNs.	Not mentioned		Not specified		
Diagnosis	"All diagnosis of malaria should be based on parasitological diagnosis with RDTs or microscopy." Microscopy is the gold standard for diagnosis but only available to 30% of fever cases; RDTs are next line diagnostic and available to the remaining 70% of fever cases.	Microscopy or RDTs should be used to diagnose malaria prior to treatment.	Not mentioned		Where available, confirm diagnosis with microscopy or RDTs		

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Treatment	**Uncomplicated malaria**, 1st trimester: oral quinine; 2nd and 3rd trimester, AL (CoArtem). **Severe malaria,** all trimesters: quinine is the first line drug for treatment of severe malaria.	**Uncomplicated malaria**, 1st trimester: oral quinine, 10 mg/kg, 3 times/day for 7 days. 2nd and 3rd trimesters: AL, 4 tabs twice daily for 4 days. **Severe malaria**, all trimesters: artesunate IM or IV 2.4 mg/kg at admission, 12, and 24 hours, then daily until oral meds; or quinine infusion, loading dose 20 mg/kg, followed in 12 hours by 10 mg/kg every 8 hours until oral meds; or artemether IM (day 1, 3.2 mg/kg; days 2 and 3, 1.6 mg/kg), only if first two drugs not available.	Malaria mentioned in context of indirect cause of maternal mortality; need to increase attendance at ANC to identify problems; and community education about danger signs in pregnancy.		**Uncomplicated malaria** Oral quinine 8 mg/kg 3x/day for 7 days. **Severe malaria** Quinine IV, 20 mg/kg loading dose; 12 hours later 10 mg/kg maintenance dose, repeat every 8 hours until quinine 10 mg/kg orally can be taken every 8 hours to complete 7 days of treatment.		

Additional documents reviewed and related noteworthy findings include:

- Management protocol on selected obstetric topics; MOH, 2010. Counsel about and provide ITN at first ANC visit; HIV+ women to use long-lasting ITNs. Recommend folic acid 0.4 mg.

Appendix 6: Ghana

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDE-LINES	TRAINING MATERIALS	TRAINING MATERIALS	PRE-SERVICE
Documents	Anti-malaria drug policy for Ghana (MOH, 2nd revised version, 2009)	Guidelines for Malaria in Pregnancy (MOH, GHS, no date but done under ACCESS Program, thus earlier than 2009)	Guidelines for Case Management of Malaria in Ghana (MOH, 2009)			Malaria in Pregnancy Training Manual for Health Providers (MOH, GHS, no date)	Training Manual for the Management of Malaria at Health Facilities in Ghana (MOH, 2009)	
IPTp Timing	1st dose after quickening (16 gestational weeks); number of doses not specified.	First dose not before 16 weeks, can be given up to 36 weeks.	First dose after quickening (16 weeks), up to 36 weeks; 3 doses at least one month apart.			3 doses total, 1st dose after quickening or after 16 weeks, 2 subsequent doses at least 1 month apart, up to 36 weeks.	First dose after quickening (16 weeks), number of doses not specified, no upper limit given for number of weeks.	
IPTp Dose	SP (500 mg/25 mg), number of tablets not specified.	SP (500 mg/25 mg), 3 tablets; 3 doses during pregnancy at least 1 month apart.	SP (500 mg/25 mg); number of tablets not specified. Delay folic acid for one week after IPTp-SP.			SP, 3 tablets	SP (500 mg/25 mg); number of tablets not specified.	
DOTs	Recommended	Recommended	Recommended			Recommended	Recommended	
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	Not specified	HIV+ pregnant women on cotrimoxazole should not receive IPTp-SP.	HIV not specifically mentioned, but states not to give SP to women who have taken cotrimoxazole within the last month.			States that HIV+ women should be especially targeted for IPTp-SP, but later states not to give to HIV+ women on cotrimoxazole.	Not mentioned	
ITN Promotion	All women should have access to ITNs.	Long-lasting ITNs should be promoted throughout pregnancy.	Counseling on ITNs should be done.			Counsel on use of ITNs in ANC.	Counsel on use of ITNs in ANC.	
ITN Distribution	Not specified	ANC clinics at subsidized prices and voucher schemes, as well as retail outlets.At	Should be distributed in ANC but no specifics given.			Routine distribution through ANC clinics; voucher system; campaigns; commercial sales.	Not specified	
Diagnosis	Severe malaria should be confirmed by the presence of the asexual parasite forms in the blood.	Diagnosis should be confirmed with microscopy or RDT.	Parasitological diagnosis should be done when possible (microscopy in hospitals, RDTs in sub-district-level health facilities).			Polyclinics and health centers should use RDTs if available; hospitals should use microscopy or RDTs to confirm diagnosis.	Parasitological diagnosis recommended	

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDE-LINES	TRAINING MATERIALS	TRAINING MATERIALS	PRE-SERVICE
Treatment	**Uncomplicated malaria** 1st trimester: oral quinine, dose not given, or oral quinine in combination with clindamycin, doses not given 2nd and 3rd trimesters: oral quinine, or AS/AQ or AL, doses not given. **Severe malaria** All trimesters: The treatment of pregnant women with severe malaria shall be with parenteral quinine (I.V. or I.M. in all trimesters) until the patient can take oral preparations, doses not specified. Intramuscular Artemether injection is recommended for the second and third trimesters, doses not specified.	**Uncomplicated malaria** 1st trimester: Oral quinine, 600 mg every 8 hours for 7 days; OR oral quinine 10 mg/kg and clindamycin 300 mg every 8 hours for 3 days. 2nd and 3rd trimesters: oral quinine per above, OR AS/AQ (artesunate 4 mg/kg and amodiaquine 10 mg/kg) in one or two divided doses for 3 days; or AL (20 mg/120 mg), 4 tabs stat then 4 tabs in 8 hours; then 4 tabs every 12 hours for 2 days **Severe malaria** Quinine IM or IV 10 mg/kg every 8 hours for 7 days, or until oral intake is tolerated, switch to oral medication, is preferred in 1st trimester but can be used in all trimesters, but if not available artemether can be used in 1st trimester; 2nd and 3rd trimester: artemether IM 3.2 mg/kg loading dose, then 1.6 mg/kg daily for 5 days, followed by full ACT treatment.	**Uncomplicated malaria** 1st trimester: Oral quinine, 600 mg every 8 hours for 7 days; OR oral quinine 10 mg/kg and clindamycin 300 mg every 8 hours for 3 days; 2nd and 3rd trimesters: Either oral quinine 600 mg 3times/day for 7 days; OR either AS/AQ (4 mg/kg/10 mg/kg or fixed dose of 50 mg/150 mg), 3 tabs/day for 3 days; OR AL (20 mg/120 mg), 3 tablets/day for 3 days **Severe malaria** All trimesters: Parenteral quinine (IV or IM in all trimesters, 600 mg every 8 hours) until the patient can take oral medication, then 600 mg every 8 hours to complete 7 days of treatment. Second and third trimesters: IM artemether (3.2 mg/kg loading dose, then 1.6 mg/kg in 8 hours, then daily for 5 days; give oral ACTs to complete 7 days of treatment.			**Uncomplicated malaria** 1st trimester: Oral quinine, 600 mg every 8 hours for 7 days, OR oral quinine 10 mg/kg and clindamycin 300 mg every 8 hours for 3 days. 2nd and 3rd trimesters: Oral quinine at the above dose; OR AS/AQ (artesunate/ amodiaquine, 200 mg/600 mg) in 1 or 2 divided doses for 3 days; OR AL (20 mg/120 mg) 4 tabs stat then 4 tabs in 8 hours, then 4 tabs every 12 hours for 2 days. **Severe malaria** Parenteral (IM or IV) quinine is the drug of choice for treating severe malaria in all trimesters until the woman can take oral preparations. 1st trimester: IM or IV quinine 10 mg/kg 3 times/day for 7 days, but can change to oral medication when tolerated: 600 mg every 8 hours to complete 7 days of treatment. 2nd and 3rd trimester: Alternative to quinine is artemether mono-therapy, IM, loading dose 3.2 mg/kg, then 1.6 mg/kg daily for 5 days, then full course of ACTs.	**Uncomplicated malaria** 1st trimester: oral quinine 600 mg every 8 hours for 7 days; OR a combination of oral quinine 600 mg every 8 hours and clindamycin 300 mg every 8 hours for 3 days; 2nd and 3rd trimesters: oral quinine 600 mg every 8 hours for 7 days; or AS/AQ (50 mg/150 mg) 3 tablets daily for 3 days; or AL (20 mg/120 mg) 3 tablets/day for 3 days **Severe malaria** All trimesters: Parenteral quinine (IV or IM in all trimesters, 600 mg every 8 hours) until the patient can take oral medication, then 600 mg every 8 hours to complete 7 days of treatment. Second and third trimesters: IM artemether (3.2 mg/kg loading dose, then 1.6 mg/kg in 8 hours, then daily for 5 days; give oral ACTs to complete 7 days of treatment.	

Additional documents reviewed and related noteworthy findings include:

- Strategic Plan for Malaria Control in Ghana 2008–2015; MOH, NMCP (no publication date). Pregnant women should receive IPTp with SP, 3 doses, weeks not specified, dose not specified; DOT should be used. ITNs promoted for all pregnant women, subsidized distribution through ANC clinics, mechanism not specified. Linkages with HIV: pregnant women should receive proper preventive measures, specifics not given. All clinical cases should have prompt diagnosis through testing, whether microscopy or RDTs. Treatment: importance of treatment of pregnant women mentioned, specifics not given.

Appendix 7: Guinea

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	TRAINING MATERIALS	ALGORITHM FOR MALARIA
Documents	National Malaria Policy, (MOH, NMCP, 2014)	Algorithm for treatment of malaria during pregnancy (MOH, NMCP, 2012)		National RH Guidelines (MOH, 2006)	Reference manual for healthcare providers on prevention and control of MIP (MOH, NMCP, 2014)	EmONC Performance Standards (MOH, no date)	Trainers manual for healthcare workers on management of malaria (MOH, NMCP, 2014)	Algorithm for Malaria; adopted 2014, part of training materials
IPTp Timing	At least 3 doses of IPTp-SP after the first trimester until delivery, interval not stated.	1st dose at 16 weeks or quickening, 2nd dose at least 1 month later, before 36 weeks.		First dose at 16 weeks or quickening, 2nd dose at least 1 month later but not after 36 weeks.	1st dose at 16 weeks or quickening; not to be given after 36 weeks. 2nd dose at least one month later. (This is not consistent with the algorithm adopted in 2014; MCHIP staff are checking with NMCP).	IPTp-SP, first dose no earlier than 16 weeks, 2nd dose at least 1 month later	At least 3 doses of IPTp-SP starting at 16 weeks or quickening until delivery, at least 1 month between doses.	First dose after 13 weeks or at quickening; repeat not more often than monthly up to delivery.
IPTp Dose	SP, number of tablets not stated.	SP (500 mg/25 mg), 3 tablets. Dose of folic acid not mentioned.		SP (500 mg/25 mg), 3 tablets FAF: 60 mg/0.4 mg daily.	SP (500 mg/25 mg), 3 tablets. Dose of folic acid not mentioned.	SP, 3 tablets	SP (500 mg/25 mg), 3 tablets	SP (500 mg/25 mg), 3 tablets
DOTs	Recommended	Recommended		Recommended	Recommended	Recommended	Recommended	Recommended
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	Not mentioned	HIV+ pregnant women should take 3 doses of SP between 16–36 weeks, unless she is on other sulfa-containing drugs, then "substitute other drugs before giving SP. In another section it states: observe a one week window after giving SP to women on cotrimoxazole.		States that HIV-positive women should receive CTX after 16 weeks; should also receive 3 doses of IPTp-SP, no mention of withholding SP if woman is on CTX	HIV+ women receive 3 doses of SP at least one month apart, unless taking cotrimoxazole.	Not mentioned	Women taking CTX should not receive IPTp-SP.	HIV+ women on CTX should not take IPTp-SP
ITN Promotion	Women should be counseled to use long-lasting ITNs.	Counsel on use of ITNs.		Counseling should be done.	Counsel during ANC on consistent use of long-lasting ITN.	Only mentioned as counseling in PNC.	Women should be counseled on use of ITNs.	Counsel on use of ITN

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	TRAINING MATERIALS	ALGORITHM FOR MALARIA
ITN Distribution	Long-lasting ITNs should be distributed at the first ANC visit.	Not specified how woman receives the ITN.		Distribution not specified.	Furnish long-lasting ITN during 1st ANC visit.	Not mentioned	ITNs should be given at the 1st ANC visit.	Not mentioned
Diagnosis	All suspected cases should be confirmed by microscopy or RDT.	Confirm malaria through microscopy or RDT prior to treatment.	:	Confirmatory testing recommended.	Cites WHO and NMCP recommendation to confirm malaria diagnosis with microscopy or RDT; but may treat based on clinical picture if tests not available.	Not mentioned	Diagnostic Confirmation for all suspected cases is necessary.	Confirm diagnosis with microscopy or RDT.
Treatment	**Uncomplicated malaria** First trimester: Oral quinine, dose not stated. 2nd and 3rd trimesters oral ACTs, specific drugs/doses e not given. **Severe malaria** First trimester: Parenteral quinine 2nd and 3rd trimesters: parenteral ACTs or quinine.	**Uncomplicated malaria**: not discussed. **Severe malaria**: IV quinine – 10 mg/kg every 8 hours for 7 days; trimester not specified, no other medications mentioned.		**Uncomplicated malaria** 1st trimester: Oral quinine 10 mg/kg every 8 hours for 7 days; 2nd and 3rd trimesters: AS/AQ (200 mg/600 mg), 4 tablets daily for 3 days. **Severe malaria** Trimesters not specified. IV quinine, loading dose 20 mg/kg, then maintenance dose 10 mg/kg every 8 hours until oral intake tolerated, then oral quinine at the same dose to complete 7 days of treatment.	**Uncomplicated malaria,** 1st trimester: Oral quinine 10 mg/kg 3 times/day for 7 days and clindamycin 10 mg/kg 2 times/day for 7 days if available; 2nd and 3rd trimesters: ACT per local guidelines. **Severe malaria**: First line treatment is IV or IM artesunate 2.4 mg/kg at 0, 12, and 24 hours; give oral medication if able (AS/AQ for 3 days); artemether and quinine can also be used, doses given; no mention of treatment by trimester	**Uncomplicated malaria** 1st trimester: oral quinine, 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters: ACT, drug and dose not specified. **Severe malaria** Trimesters not specified: IM quinine or artemether per national protocol (doses not specified) and refer	**Uncomplicated malaria** 1st trimester: oral quinine 10 mg/kg 3 times/day for 7 days, and clindamycin 10 mg/kg twice daily for 7 days if available. 2nd and 3rd trimesters: AS/AQ (100 mg/270 mg), 2 tablets daily for 3 days **Severe malaria** There is not a section specific to treatment of severe malaria in pregnancy though quinine can be used: loading dose of 20 mg/kg IV then 10 mg/kg every 8 hours until able to take oral quinine or ACT	**Uncomplicated malaria** 1st trimester: Quinine, but dose is not mentioned at any point in the algorithm. 2nd and 3rd trimester: ACT – AS/AQ (200 mg/540 mg) for 3 days, number of tablets not stated **Severe malaria** Trimesters not mentioned; first line treatment is artesunate 2.4 mg/kg IM or IV at 0, 12 and 24 hours. 2nd line treatments are artemether and quinine, doses given.

- Comment: Per MCHIP staff, norms and protocols are undergoing review by the MOH and NMCP at this time. PMTCT guidelines have just been updated to clarify not giving IPTp-SP and CTX together.
- Additional documents reviewed and related noteworthy findings include:
- Norms and Procedures for Reproductive Health (MOH, 2009); do not discuss care during pregnancy.
- National Malaria Strategic Plan (MOH, NMCP, 2013–2017, February 2014. Pregnant women should receive at least 2 doses of IPTp-SP, dose not mentioned, by DOT; long-lasting ITNs should be distributed at ANC; counseling through mass media; laboratory diagnosis should be done before treatment; treatment not discussed.

Appendix 8: Kenya

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM
Documents	Kenya National Malaria Policy, April 2010 and IPTp circular 2011	National Guidelines for Detection, Treatment and Prevention of Malaria in Kenya; Ministry of Public Health and Sanitation and Ministry of Medical Services, May 2010	Enhancing Reproductive Health Status for all Kenyans; October 2007 (Also see notes below on RH National Strategy, 2009–2017)	Not available for review	MIP Orientation Package for Service Providers, June 2011 and accompanying posters on prevention and case management of MIP	FANC/MIP/ PMTCT/TB Orientation Package; December 2011	Malaria Support Supervision Manual; February 2011 Division of Malaria Control	No separate documents exist; tutors use existing national guidelines for diagnosis, treatment, and prevention to formulate curricula.
IPTp Timing	All pregnant women living in malaria-endemic areas receive free malaria preventive treatment during ANC as per the national treatment guidelines.	IPTp should be given at each scheduled visit after quickening, for a minimum of 2 doses; IPTp should be given at an interval of at least 4 weeks; SP for IPTp is safe up to 40 weeks and late dosing is beneficial for women presenting late in pregnancy.	Mentions malaria only as an indirect cause of maternal mortality; no mention of specific interventions to prevent or treat malaria.		Each scheduled visit after quickening, or between 16–40 weeks, at least one month apart.	IPTp recommended in malaria endemic areas: Nyanza Coast and Western Province; give minimum of two doses of SP at least one month apart from 16–40 weeks.	After quickening, or between 16–40 weeks.	
IPTp Dosing		IPTp is recommended in areas of high malaria transmission. The current recommended medicine for IPTp is 3 tablets of sulphadoxine/sulphalene 500mg and pyrimethamine 25mg. Folic acid tablets should NOT be administered with SP given for IPTp, but if need be, may be taken 14 days following administration of IPTp.			SP is used, states to use treatment dose but number of tabs not mentioned; take folic acid 14 days after IPTp.	Dose of SP not specified. Withhold folic acid (5 mg) for 14 days after SP.	Every four weeks after quickening or whenever the mother presents herself if interval between her visits is greater than 4 weeks.	
DOT		IPTp should be given under DOT in the antenatal clinic and can be given on an empty stomach.			Yes	Yes	Yes	

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM
Linkages to HIV: What do the RH and malaria documents promote for HIV in pregnancy?		In areas of high HIV prevalence (>10% among pregnant women) pregnant women should receive at least 3 doses of IPTp. Pregnant women who are HIV+ and are on daily cotrimoxazole chemoprophylaxis should not be given SP for IPTp; pregnant women who are HIV+ and are also taking antiretroviral therapy for PMTCT who are not receiving cotrimoxazole should receive IPTp with SP.			No IPTp for HIV+ women on cotrimoxazole.	Counseling and testing of all women (opt out approach); re-test all negative women after 3 months. Do not give SP to women on cotrimoxazole prophylaxis.	IPTp not given to women on cotrimoxazole.	
ITN Promotion	All pregnant women living in malaria-endemic areas have access to long-lasting ITNs.	Advocacy, communication, and social mobilization are a critical intervention for behavior change towards improved health practices. The community should be sensitized to use appropriate prevention measures especially to sleep under long-lasting ITN every night.			Counsel on use of ITNs.	Counsel on use of long-lasting ITNs.		
TN Distribution		Each pregnant woman living in a malaria-risk area receives a free long-lasting ITN at the first contact visit to the ANC and is shown how to hang the long-lasting ITN and encouraged to use the net every night during her pregnancy and thereafter.			Confirm whether mother has an ITN but distribution not mentioned.	Not specified how nets are to be given.	Facility should provide ITNs/ long-lasting ITNs to pregnant women.	
Diagnosis of malaria	All persons with fever have parasitological diagnosis using microscopy or RDTs.	If possible parasitological diagnosis using microscopy or RDTs should be done.			No mention of how to diagnose.	Parasitological diagnosis recommended if possible.	Microscopy or RDT should be used to diagnose before treatment.	

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM
Treatment: Uncomplicated malaria	All pregnant women with fever have access to free diagnosis and treatment for malaria.	**1st trimester:** 7-day therapy of oral quinine, 600 mg every 8 hours. Do not withhold AL or any other treatment in 1st trimester if quinine is not available. **2nd and 3rd trimesters:** AL, 4 tablets every 12 hours for 3 days; oral quinine may also be used but compliance must be ensured.			IPTp only discussed in slides, no case management, but per accompanying poster: **Uncomplicated malaria:** 1st trimester: administer 7-day course of oral quinine; do not withhold AL in 1st trimester if quinine is not available (doses not stated). 2nd and 3rd trimesters: administer 3-day course of AL, dose not stated.	**1st trimester**: oral quinine for 7 days, dose not specified. **2nd and 3rd trimesters:** ACTs (AL).	**1st trimester:** oral quinine should be used. **2nd and 3rdtrimesters:** treatment not mentioned.	
Treatment: Severe malaria	All pregnant women with fever have access to free diagnosis and treatment for malaria.	**All trimesters:** Parenteral quinineor parenteral artemisinins (artemether or artesunate). The preferred route of administration is IV for quinine (1,200 mg loading dose and 600 mg 8 hourly) and artesunate (2.4 mg/kg loading dose and 1.2 mg/kg at 12 and 24 hours, then daily). However the IM route can be used as an alternative where IV route is not feasible. In the absence of quinine, IM artemether, IM artesunate, or rectal artesunate can be administered. All efforts should be made to move the patient to a center where the expertise and infrastructure exist for the adequate management of severe malaria.			Establish if loading dose has been given; if not, administer a loading dose of quinine 1,200 mg in dextrose infusion; 8 hours from the initial dose of parenteral quinine, give infusion of 10mg/kg (maximum 600mg) in dextrose. Repeat infusion every 8 hours until the patient can take medication orally; thereafter a complete course of AL should be administered. With artesunate: establish if initial dose has been given, if not, administer IV loading dose 2.4 mg/kg then 1.2 mg/kg at 12 and 24 hours, then once a day until patient is able to take medication orally; thereafter a complete course of AL should be administered.	**Severe malaria**: Trimesters not specified: parenteral quinine or artemisinins; dose of quinine specified per WHO guidelines; dose of artemisinin not specified.	**All severe malaria** should be treated with IV quinine, trimesters not specified.	

Additional documents reviewed and related noteworthy findings include:

- Kenya Malaria Monitoring and Evaluation Plan 2009–2017: indicators for use of IPTp1 and IPTp2 uptake; use of long-lasting ITN by pregnant women.
- 2009 Kenya Malaria Program Performance Review: Recommendations: evaluate the implementation of IPTp with SP, explore reasons for low uptake after 10 years of implementation; explore alternatives to SP for IPTp; place the country IPTp focal person at Division of Malaria Control (DOMC); address the procurement and supply chain management of SP to avoid stockouts; investigate other avenues (e.g., a community-based approach) in addition to the ANC for delivering IPTp; establish IPTp-specific delivery points within the current ANC system; develop key messages for BCC targeting both health workers and pregnant women.
- National Malaria Strategy 2009–2017: DOMC offices and roles: Malaria in Pregnancy: Provide technical guidance for the implementation of activities for the prevention and treatment of MIP; coordinate MIP TWG and subcommittees. Collaborate with DRH: The DOMC collaborates with DRH to maximize the impact of malaria control in the attainment of Millennium Development Goal 5 by supporting activities for the prevention and treatment of MIP, including IPTp and distribution of ITNs to pregnant women through ANC clinics. In 2005, DOMC collaborated with DRH on a pilot project to strengthen health systems through the implementation of FANC and MIP initiatives.
- Circular describing malaria national policy, April 2011: confirms guidelines above—all women get at least 2 doses of IPTp by DOT and should receive it at each scheduled ANC visit, at least one month apart after quickening; no folic acid for 15 days following IPTp; no IPTp for HIV+ women on cotrimoxazole.
- National Reproductive Health Strategy, 2009 – 2015, August 2009: The main objective is to reduce rates of maternal, perinatal, and neonatal morbidity and mortality in Kenya. This will be achieved by "increasing equitable access to maternal and newborn services; improving quality, efficiency and effectiveness of service delivery at all levels; and improving responsiveness to the client needs," and increased access to skilled birth attendant; malaria acknowledged as an indirect cause of maternal mortality. Since RH services are part of the essential health packages, their management and implementation will involve other Ministry of Public Health and Sanitation divisions providing relevant packages such as Kenyan Expanded Programme on Immunization, HIV and AIDS, and TB, integrated management of childhood illnesses, and malaria. Monitoring and evaluation indicators include those around basic emergency obstetric and newborn care (BEmONC), which would target the facilities/providers who prevent, diagnose, and treat MIP.
- Job aid poster from ACCESS/Uzima, no date: at least 2 doses of SP four weeks apart between 16–40 weeks; DOT; suspend folic acid for 2 weeks after SP; HIV+ women on cotrimoxazole should not take SP; promote ITNs.
- MIP Standards Based Monitoring and Recognition tool, 6 July 2012 (draft tool), endorsed by the MIP TWG: IPTp with 3 tabs SP, DOT from 16 weeks/quickening; doses at each visit, at least 4 weeks apart; promotion and provision of long-lasting ITN, counseling on how to use net. No SP to HIV+ women on cotrimoxazole. Detection with microscopy/RDT if possible. Treatment: uncomplicated malaria, 1sttrimester: 7-day course of oral quinine; if quinine not available 3-day course of AL, 1stdose DOT; 2nd– 3rd trimester: 3-day course of AL, 1st dose DOT. Severe malaria: loading dose before referral of IM quinine 20 mg/kg (to 1200 mg); or IM artesunate 2.4 mg/kg; continuing treatment with quinine—10 mg/kg every 8 hours until oral meds can be taken, then 3-day course of AL, or AL 2.4 mg/kg every 12 hours x2 after loading dose, then once daily until oral meds can be taken, and commence 3-day treatment of AL.
- MIP Orientation Package for Service Providers, June 2011: IPTp from 16–40 weeks at each ANC visit at least 4 weeks apart, DOT; delay folic acid for 14 days; not for HIV+ women on cotrimoxazole. Promotion of long-lasting ITNs.
- Community Midwifery Services in Kenya: Implementation Guidelines, August 2012: Mentions IPTp and ITN use as core components of FANC.
- National Road Map for Accelerating the Attainment of the MDGs [Millennium Development Goal] Related to Maternal and Newborn Health in Kenya, August 2010: Mentions importance of malaria prevention as a part of FANC, using IPTp and ITNs.

Appendix 9: Liberia

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION TOOLS	PRE-SERVICE
Documents	National Malaria Strategic Plan 2010 - 2015 (MOH, NMCP, no date)	Technical Guidelines on Malaria Case Management (MOH, NMCP, 2008)	National Sexual and Reproductive Health Policy (MOH, 2010)	Module on Pregnancy, (MOH, 2009)	Training Manual for Management of Malaria, Facilitator's Manual Version 3 (NMCP, MOH, 2008)	National Integrated Monitoring Tool (MOHSW, no date)	Competency-based PSE Curriculum for Physician Assistants (MOHSW 2013); This is an outline of topics to be covered; no in-depth information on drugs/doses is provided.
IPTp Timing	All health facilities will provide IPTp per national guidelines.	SP given in 2nd and 3rd trimester, weeks not mentioned.	Only mention of malaria and pregnancy is as part of essential SRH services, under maternal and newborn health: Ensure that all health facilities provide: focused ANC, including prevention of mother-to-child transmission (PMTCT) and malaria in pregnancy prevention.	1st dose in 2nd trimester (weeks not stated); 2nd dose in 3rd trimester; do not administer 2 weeks prior to delivery. (Stop folic acid [dose not given] for 1 week after IPTp).	Once in the second and once in the third trimester, at least one month apart (no upper limit given on number of weeks in 3rd trimester). No specific range of weeks given. Concomitant administration of folic acid/FeFa and SP is contraindicated (no mention of for how long folic acid should not be given after SP dose; no mention of dose of folic acid).	Given in 2nd and 3rd trimester; no intervals specified.	At least 2 doses of SP; timing and intervals not specified.
IPTp Dose	IPTp with SP, dose not specified.	IPTp with SP in 2nd and 3rd trimesters.		3 tablets (drug not stated)	SP (500 mg/25 mg) 3 tablets.	Medication, dose not specified.	SP, dose not mentioned.
DOTs	Not mentioned	Not mentioned		Recommended	Recommended	Recommended	Not mentioned
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	Not mentioned	Not mentioned		IPTp not to be given to women on cotrimoxazole.	WHO/Afro 2004 recommendation for IPTp is in boxed text but no specific recommendation for management of HIV+ women is made in manual.	Not mentioned	Not specified

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION TOOLS	PRE-SERVICE
ITN Promotion	Long-lasting ITN use should be promoted	Not mentioned		Counseling not mentioned.	Access to long-lasting ITNs by pregnant women should be promoted.	Not mentioned.	ITNs are a component of MIP.
ITN Distribution	"Long-lasting ITNs will be provided to all pregnant women"; need for distribution in ANC mentioned.	Not mentioned		ITNs should be given to all pregnant women (mechanism not stated).	Long-lasting ITNs should be distributed during ANC, but mechanism not specified.	ITN should be provided	Not specified
Diagnosis	Confirmatory diagnosis on all suspected cases should be performed.	Do laboratory exam – blood smears or RDT – but if they are not available clinician must use clinical picture to diagnose malaria.		Diagnosis not mentioned.	Diagnostic test should be done before treating if possible; microscopy preferred, but RDTs should be used when microscopy not available.	Confirmation by RDT or microscopy should be done.	Not specified for MIP

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION TOOLS	PRE-SERVICE
Treatment	**Uncomplicated malaria,** 1st trimester: oral quinine; 2nd and 3rd trimesters: oral quinine or AS/AQ. **Severe malaria:** parenteral quinine or artemether IM (not clear if this is for pregnant women or other adults)	**Uncomplicated malaria**: 1st trimester: oral quinine, 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters: AS/AQ. **Severe malaria:** Parenteral quinine: 20 mg/kg loading dose followed by 10 mg/kg maintenance dose every 8 hours for at least 3 infusions, then administer oral treatment if possible (10 mg/kg 3 times per day to complete 7 days of treatment. "Quinine IV is the drug of choice for the treatment of severe malaria in pregnant women. However, if a pregnant women has fever due to malaria and pre-existing uterine stimulation: ▪ Treat with Paracetamol to reduce the fever. ▪ Administer tocolytic (salbutamol recommended). Artemether IM 3.2 mg/kg single dose on the first day, and then 1.6 mg /kg /day x 2 days Note: Artemether should only be administered in the second and third trimesters.		**Uncomplicated malaria** 1st trimester: Oral quinine 600 mg every 12 hours for 7 days; ACT recommended in 2nd and 3rd trimesters, drug/dose not specified **Severe malaria (trimesters not specified)** IV quinine 20 mg/kg loading dose, then maintenance dose of 10 mg/kg every 8 hours; if oral intake tolerated after 1st maintenance dose start oral dose, 600 mg every 12 hours for 6 days. Also mentioned artemether 3.2mg/kg IM stat (loading dose), then 1.6 mg/kg (maintenance dose) on days two and three, Artesunate 2mg/kg orally plus Amodiaquine 10mg/kg daily for 3 days, but trimesters not stated.	**Uncomplicated malaria**: 1st trimester: oral quinine, 30 mg/kg two times/day for 7 days; 2nd and 3rd trimesters: oral quinine, 30 mg/kg 2 or 3 times/day; AS/AQ is safe is quinine not available; if no quinine available give artesunate 4 mg/kg, and Amodiaquine 10 mg/kg, for 3 days – number of tablets/day not specified. **Severe malaria:** IV quinine loading dose 20 mg/kg, then maintenance dose of 10 mg/kg twice, then oral quinine 30 mg/kg for 6 days. IM artemether not to be given in 1st trimester, safe in 2nd and 3rd trimesters; dose or when it should be used instead of quinine not stated. (In case scenario 3 a woman in 1st trimester has uncomplicated malaria based on symptoms, but is given IV quinine) (Annex 1 shows options for treatment of uncomplicated malaria, including non-fixed combinations of AS/SP and states it should not be given in 1st trimester, states SP is safe in all trimesters but AS is not, implying that this could be used)	Refers to "national guidelines"	**Uncomplicated malaria,** 1st trimester: oral quinine 10 mg/kg 3 times/day for 7 days, clindamycin 10 mg/kg twice/day for 7 days; 2nd and 3rd trimesters: artesunate and amodiaquine (doses not given) or artesunate (dose not given)and clindamycin (10 mg/kg twice daily) for 7 days, OR quinine and clindamycin for 7 days. **Severe malaria:** prior to referral full dose of parenteral antimalarials; first trimester: quinine is the drug of choice, but in its absence artemether may be used; second and third trimesters: IM or IV artesunate is the first and artemether the second option; rectal administration of artesunate or artemether may be given if injections are not possible.

Additional documents reviewed and related noteworthy findings include:

- Basic Package of Health and Social Welfare Services for Liberia (MOH, 2008): recommends IPTp-SP in 2nd and 3rd trimester; promotion and distribution of ITN; treatment of malaria cases in pregnancy.
- ANC card: has space for at least 2 doses of IPTp, but name and dose of medication not specified. There is a space to check whether the woman was given an ITN during ANC. There is a picture of a pregnant woman sleeping under a net.
- National Community Health Services Policy (MOH, 2012): CHW should distribute ITNs during campaigns; may distribute IPTp and ITNs to pregnant women in remote areas with poor ANC coverage.
- National Health Policy (MOH, dated 2007)/National Health Plan 2007 – 2011 (MOH, no date): Key elements of the BPHS for maternal health, under ANC, include IPTp with SP, ITNs and treatment of malaria.
- Liberia roadmap to achieve RBM targets, 2012 (MOH): Procure sufficient long-lasting ITNs for routine distribution in ANC; strengthen pre-service training on malaria-related topics, especially MIP; improve use of IPTp among pregnant women; conduct in-service training of service providers to improve use of IPTp; train traditional midwives to give IPTp at community level; conduct regular support supervision of providers; conduct community education/advocacy sessions on IPTp.
- MOHSW ANC Clinic Accreditation Tool (no date); providers should give IPTp if in 2nd or 3rd trimester, but timing, drug, dose, intervals not specified. Should counsel on use of ITN and provide if the woman doesn't have one. No information on malaria diagnosis or treatment.
- MOHSW Malaria Clinic Accreditation Tool (no date): IPT recommended, no specifics on timing, drug, dose, DOT, HIV+ women; counsel on ITN use and distribute if needed; confirmation of diagnosis with RDT or microscopy if available; no specific on treatment for malaria in pregnant women.
- Chapter 5, PA Handbook; no date; no logos. Pregnant women should receive IPTp by DOT in 2nd and 3rd trimester, at least 4 weeks apart, not after 38 weeks; drug/dose not specified; counseling and provision of long-lasting ITN; suspend folic acid (use 400 mcg) for 1 week after IPT; do not give if HIV+ woman is on cotrimoxazole. Diagnostic confirmation of malaria not mentioned. Treatment: uncomplicated malaria – oral quinine 600 mg twice daily for 7 days; ACT recommended in 2nd and 3rd trimesters; severe malaria – trimesters not specified; IV quinine 20 mg/kg loading dose, then 10 mg/kg maintenance dose, timing not specified. When able oral quinine 600 mg twice daily for 6 days; copied from document: artemether 3.2mg/kg IM stat (loading dose), then 1.6 mg/kg (maintenance dose) on days two and three, artesunate 2mg/kg orally plus amodiaquine 10mg/kg P.O QD X 3 days.

Appendix 10: Madagascar

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION TOOLS	PRE-SERVICE
Documents	Strategic Plan to Fight Malaria (?MOH, 2012)	National Norms and Procedures for Malaria (no logo, file dated 06/02/07, appears to be a draft)	Policy Orientations for Reproductive Health (MOH, 2012)	Reproductive Health Norms and Guidelines (MOH, 2006)	Treatment of Malaria: Reference Manual for Health Care Workers in Basic Health Centers (MOH, NMCP, 2010)	Performance Standards for Prevention and Treatment of Malaria in Basic Health Centers (no logo, no date; not finalized and may not be used yet in the field)	Training Curriculum on BEmONC for Midwives (MOH, 2009)
IPTp Timing	First dose at 16 weeks or quickening, 2nd dose at least 1 month later.	First dose at 16 weeks or quickening, 2nd at least 1 month later.	As part of Basic Package of Services, IPTp should be part of ANC, no specifics given.	1st dose at >16 weeks; 2nd dose at least 1 month later.	First dose at quickening, or 16 weeks; 2nd dose at least 1 month later, no upper limit.	First dose at 16 weeks, or at least one month since last dose.	Malaria mentioned as a complication in pregnancy, but no specific mention of prevention or treatment of malaria during pregnancy.
IPTp Dose	SP	SP	Not mentioned	SP, 2 tablets	SP, 3 tablets	SP (500 mg/25 mg), 3 tablets. Mentions giving iron/folic acid, dose is 200 mg, but specific dose of folic acid not mentioned.	
DOT	Recommended	Not mentioned	Not mentioned	Recommended	Not mentioned	Recommended	
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	States that guidelines mentioned in references should be used for management of women with HIV.	HIV+ pregnant women should receive 3 doses of IPTp-SP; no mention of CTX.	Not mentioned	HIV-positive women should receive a 3rd dose of IPTp-SP, CTX not mentioned.	3 doses of SP recommended for HIV+ women; states that giving SP to women on CTX can cause "undesirable reactions," but does not state that SP should not be used for these women, rather states to give 3 doses of SP.		

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION TOOLS	PRE-SERVICE
ITN Promotion	Women should be counseled on use of long-lasting ITNs during ANC.	Long-lasting ITNs should be promoted.	As part of Basic Package of Health Services, long-lasting ITNs should be promoted during ANC.	ITNs/long-lasting ITNs should be promoted.	Long-lasting ITN use recommended.	Provider should counsel on long-lasting ITN use.	
ITN Distribution	Long-lasting ITNs should be part of the package offered to women during ANC.	Long-lasting ITN should be furnished at 1st ANC visit.	No specifics given about how the woman obtains the long-lasting ITN.	Woman should receive a net at her 1st ANC visit.	No specifics given about how the woman obtains the long-lasting ITN.	Not specified how woman obtains long-lasting ITN.	
Diagnosis	Malaria should be confirmed by microscopy or RDTs prior to treatment.	Diagnosis should be confirmed with testing.	Not mentioned	Not mentioned	Diagnosis made by presence of fever (>37.5) + positive RDT or microscopy (thick film).	The provider should request or perform microscopy or RDT.	
Treatment	**Uncomplicated malaria**: oral quinine in 1st trimester and ACTs in 2nd and 3rd trimesters, doses not stated. **Severe malaria**: injectable quinine.	**Uncomplicated malaria:** 1st trimester, oral quinine 10 mg/kg or 300 mg every 8 hours for 7 days; 2nd and 3rd trimesters AS/AQ (200 mg/600 mg), daily for 3 days. **Severe malaria:** IV quinine 20 mg/kg loading dose then 10 mg/kg every 8 hours; when oral intake tolerated go to oral quinine in 1st trimester, or ACT in 2nd and 3rd trimesters, doses not given.	Treatment of uncomplicated malaria should be part of Basic Package of Health Services at the health center level	**Uncomplicated malaria** 1st trimester: oral quinine 10 mg/kg every 8 hours for 7 days; 2nd and 3rd trimesters: AS/AQ (200 mg/600 mg) daily for 3 days. **Severe malaria** 1st trimester: IV quinine until oral intake tolerated (dose not specified) then oral quinine per 1st trimester; 2nd and 3rd trimesters: ACTs, dose not specified.	**Uncomplicated malaria**, 1st trimester: oral quinine, 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimester: AS/AQ (100 mg/270 mg): 2 tablets daily for 3 days. **Severe malaria,** all trimesters: IV quinine, loading dose of 20 mg/kg, maintain with 10 mg/kg every 8 hours until oral medication (quinine 10 mg/kg 3 times/day, can be taken; treat for a total of 7 days. NB: care for the pregnant woman is scattered among various section of the document, though there is a section on treatment of malaria during pregnancy it does not combine all information.	**Uncomplicated malaria**, 1st trimester: oral quinine, 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters: AS/AQ (200 mg/600 mg) daily for 3 days. **Severe malaria,** all trimesters: loading dose of quinine, 10 mg/kg in each latero/anterior thigh, refer immediately.	

Additional documents reviewed and related noteworthy findings include:

- Road Map for Reduction of Maternal and Newborn Mortality 2005–2015 (MOH, no date): commit to providing IPTp and ITNs as part of ANC; commit to training providers in MIP.

Appendix 11: Malawi

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	TRAINING MATERIALS	PRE-SERVICE
Documents		Guidelines for the Treatment of Malaria in Malawi (MOH, NMCP, 2013)	National Sexual and Reproductive Health Policy (MOH, draft revision, 2009)	Malawi Reproductive Health Service Delivery Guidelines 2013 – 2016 (draft; MOH)	National Training Guidelines for Diagnosis, Treatment and Prevention of Malaria in Malawi; a training manual for health workers (draft revised participant manual, MOH, NMCP, 2013)	Control and Prevention of Malaria during Pregnancy: Training Manual for Healthcare Providers—being updated but not yet in use; (participant manual) (MOH, NMCP, RHU, 2013)	
IPTp Timing		The policy for IPTp is for women to receive at least three doses of SP after the first trimester. Administer three tablets of SP with each scheduled ANC visit after quickening at least one month apart; can be given up to time of delivery. (Note potential contradiction of underlined phrases.)	Not mentioned	IPT at 26 and 32 weeks (per the matrix for FANC).	The policy for IPTp is for women to receive at least three doses of SP after the first trimester. Administer with each scheduled ANC visit after quickening, at least 4 weeks apart, up to the time of delivery. (Note potential contradiction.)	First dose after quickening (weeks not mentioned); next dose at least one month later; total of 3 doses up to time of delivery (other sections of the document say to give SP twice, not later than 36 weeks; later it states to give the first dose at 16 weeks gestation or more	
IPTp Dose		SP, 3 tablets	Not mentioned	SP, number of tablets not stated; iron (sic) tablets should be suspended for one week after giving SP.	SP (500 mg/25 mg), 3 tablets.	SP (500 mg/25 mg) 3 tablets. Do not give folic acid ≥5 mg with SP, time period not specified.	
DOT		Recommended	Not mentioned	Recommended	Recommended	Recommended	
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?		IPTp-SP not to be given to women on cotrimoxazole.	Not mentioned	Not mentioned	HIV+ women receiving cotrimoxazole should not receive IPT-SP.	Do not give IPTp-SP to HIV+ women taking cotrimoxazole	
ITN Promotion		Not mentioned	Not mentioned	Not mentioned	Important to encourage women to use long-lasting ITNs during pregnancy and after delivery.	Counsel on use of ITNs.	

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	TRAINING MATERIALS	PRE-SERVICE
ITN Distribution		Not mentioned	Not mentioned	Under matrix for ANC, ITN is marked at all four visits, but no narrative about how it should be obtained.	Long-lasting ITNs should be provided as part of ANC – specifics not mentioned.	All pregnant women should receive free ITNs at public and CHAM ANC clinics	
Diagnosis		All suspected malaria cases should be confirmed using either microscopy or malaria RDT. For uncomplicated malaria, treatment should only be given to those patients who test positive.	Not mentioned	Not mentioned	Each suspected patient should undergo parasitological diagnosis, either microscopy or RDT, before treatment.	Diagnosis before treatment implied in case studies, not explicitly in text.	
Treatment	.	**Uncomplicated malaria**: 1st trimester: oral quinine, 600 mg every 8 hours for 7 days, with oral clindamycin, 300 mg every 8 hours for 7 days; if treatment failure use artemether/lume-fantrine per dose below. 2nd and 3rd trimester: AL (20/120 mg), 4 tablets stat, then 4 in 8 hours, then 4 tablets 2 times/day for 2 more days, for a total of 3 days of treatment. **Severe malaria**: 1st trimester: Parenteral quinine, 20 mg/kg loading dose, then 10 mg/kg every 12 hours for at least 24 hours, then give oral quinine (600 mg every 8 hours and clindamycin(300 mg/kg every 8 hours).	Not mentioned	Not mentioned	**Uncomplicated malaria**: 1st trimester: oral quinine 600 mg every 8 hours for 7 days, and clindamycin 300 mg every 8 hours for 7 days; 2nd and 3rd trimesters: AL, dose not specified. **Severe malaria:** 1st trimester: Parenteral quinine, 20 mg/kg loading dose, then 10 mg/kg every 12 hours for at least 24 hours, then switch to oral quinine and clindamycin to complete 7 days of treatment. 2nd and 3rd trimesters: Give artesunate 2.4 mg/kg body weight IV bolus or IM on admission (at 0 hour), repeat at 12 hours and at 24 hours, then once daily, for no more than 6 days.	**Uncomplicated malaria** 1st trimester: oral quinine, 10 mg/kg every 8 hours for 5 days. 2nd and 3rd trimesters: SP, 3 tablets, if she has not taken it within the last 3 weeks; (earlier in the manual it is stated not to treat malaria with SP). **Severe malaria** Give 900mg of quinine in 1 litre of 5% dextrose over 3 hours and refer to appropriate facility.	

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	TRAINING MATERIALS	PRE-SERVICE
		2nd and 3rd trimester: Parenteral artesunate, artesunate 2.4 mg/kg body weight IV bolus or IM on admission (at 0 hour), repeat at 12 hours and at 24 hours, then once daily, for no more than 6 days. Once patient can take oral treatment and at least 24 hours of parenteral therapy has been administered, discontinue parenteral therapy and commence a full course of AL to complete 7 days of treatment. Pregnant women in the second and third trimester can be treated with parenteral quinine if parenteral artesunate is not available or contraindicated.			However, once patient can take oral treatment and at least 24 hours of parenteral therapy has been administered, discontinue parenteral therapy and commence a full course of AL. Pregnant women in the second and third trimester can be treated with parenteral quinine if parenteral artesunate is not available or contraindicated; shift to oral quinine and clindamycin after 24 hours of parenteral treatment.		

Additional documents reviewed and related noteworthy findings include:

- Participants Manual in Integrated Maternal and Neonatal Care (MOH, 2009; edited 2013). FANC matrix says to offer SP at 20–24 weeks, 28–32 weeks, and 36 weeks. Dose of SP not mentioned; in ANC checklist states provider should counsel woman about use of ITN, specifics on provision of ITN not stated; states that HIV+ women on cotrimoxazole should not receive SP, and diagnosis and treatment not mentioned.

Appendix 12: Mali

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM
Documents	NMCP, no date but around 2008/2009	Malaria National Guidelines for Case Management of Malaria, from NMCP 2012	NMCP Guidelines for Management and Distribution of Free long-lasting ITNs and IPTp to Pregnant Women and Under 5s, March 2011	See next column—policy and guidelines for RH services are combined into one document	Policy and Guidelines for RH Health Services, 2004.	FANC reference manual, November, 2011	NMCP Supervision Guide, February 2012	The FANC reference manual for in-service education is also used by nursing and midwifery schools. No separate pre-service materials.
IPTp Timing	SP to be used during pregnancy but no dosing or timing described.	Importance of IPTp mentioned, but timing and dose not mentioned.	SP to be given twice during pregnancy after 16 weeks.		Not to be given at first visit (16 weeks) but at follow up visits (24–28 weeks and 32–36 weeks).	2 treatment doses of SP at least one month apart between the 4th and 8th months of pregnancy, following quickening; not given in last month of pregnancy.	Provider is asked when IPTp should be given during pregnancy; correct answers not mentioned in document: between 4th and 8th month; 3 tablets of SP. Client exit interview about receiving SP.	
IPTp Dosing	Not mentioned	Importance of IPTp mentioned, but timing and dose not mentioned.	SP, 3 tablets; woman takes prescription from ANC provider to pharmacy.		SP to be used, but dose not stated.	SP, 3 tablets; do not take folic acid for one week after SP.	SP is specified; provider is asked what the dose is but correct answer is not mentioned.	
DOT	Not mentioned	Not mentioned	Pharmacist gives SP by DOT.		Not mentioned	Yes	IPTp by DOT	
Linkages to HIV: What do the RH and malaria documents promote for HIV in pregnancy?	Not mentioned	Not mentioned	HIV+ pregnant women receive 3 doses of IPTp with SP; no mention of determining if she is on cotrimoxazole prophylaxis.		Not mentioned	HIV+ women should receive 3 doses of SP; if on cotrimoxazole should not receive IPTp.	Not mentioned	

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM
ITN Promotion	Will work with private sector to achieve scale up.	Use mentioned but distribution not mentioned.	Woman counseled on use of net and given prescription by ANC provider.		Counseling on use of ITNs mentioned.	Counsel all mothers on ITN use at each ANC visit.	Counsel on use of long-lasting ITNs.	
ITN Distribution	All pregnant women should receive a net free at the 1st ANC visit.	Use mentioned but distribution not mentioned.	Woman takes prescription to pharmacy where she receives net at the first ANC visit.		Method of distribution not mentioned.	ITNs given free of charge at 1st ANC visit.	Gives the long-lasting ITN at the first ANC visit; client exit interview about receiving free long-lasting ITN.	
Malaria diagnosis	Cases should be diagnosed with RDTs or microscopy when possible, and free of charge to pregnant women.	Diagnosis with microscopy or RDT depending on level: community health center—RDT; referral health center—microscopy.	Not discussed		Not discussed	Use microscopy or RDTs when possible; if not available use clinical status to diagnose.	Interviews of health care workers target use of RDTs or microscopy for diagnosis; assessment of presence of supplies/equipment to do RDTs and microscopy.	
Treatment: Uncomplicated malaria:	No specific mention of pregnancy or trimesters, just that all uncomplicated malaria will be treated with ACTs like artesunate-amodiaquine (AS-AQ) or AL; no dosing, route, or specific treatment per trimester given. Provided free of charge to pregnant women.	**1st trimester:** Oral quinine for 7 days, dose not delineated. **2nd and 3rd trimesters:** ACTs, but type/dose not delineated.	Not discussed		Not discussed	**1st trimester:** oral quinine, dose not specified. **2nd and 3rd trimesters:** AL (20 mg/120 mg)—4 tabs morning and evening for 3 days.	Asks provider what medication would be given for treatment, specifies AL and quinine but no doses given; questions about stock of AL, AS-AQ, quinine, and artemether.	

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM
Treatment: Severe malaria	No specific mention of pregnancy; quinine will be used to treat all cases of severe malaria; no dosing, routes, or timing given; to be provided free to pregnant women.	**All trimesters**: IV quinine loading dose 20 mg/kg then 10 mg/kg maintenance dose every 8 hours until oral quinine can be started if in first trimester, or ACT if in 2nd and 3rd trimester.				Artemether 3.2 mg/kg (max 160 mg) IM before referral; or artesunate 800 mg rectally; or quinine 10 mg/kg IM. If transfer not possible continue artemether1.6 mg/kg daily up to 5 days; or artesunate repeat loading dose 12 hours later, then 10mg/kg daily, duration not specified; or quinine 10 mg/kg IV 3 times/day or 15 mg/kg 2 times/day; when patient can take oral medication, continue treatment with oral ACTs.		

Additional documents reviewed and related noteworthy findings include:

- NMCP Strategic Plan to Fight Malaria 2007–2011, July 2006:IPTp—2 doses at least one month apart between 4th and 8th months; with SP—3 tabs; long-lasting ITNs promoted; use of RDTs/lab diagnosis promoted.

Appendix 13: Mozambique

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS—CASE MANAGEMENT	IN-SERVICE TRAINING MATERIALS—MNH	SUPERVISION MATERIALS	MNH PERFORMANCE STANDARDS	PRE-SERVICE CURRICULUM
Documents	From NMCP 2011	Guidelines for Treatment of Malaria in Mozambique, 2011	National Sexual and RH Policy, July 2011	Reference Manual of National Norms for Care during Childbirth, Newborn Care, and Treatment of Major Obstetric and Newborn Complications, August 2011	2-day in-service training module for malaria case management, NMCP, 2012	2nd in-service package, January 2012 (Based on ACCESS Program's Best Practices in MNH Learning Resource Package; module on malaria.)	MOH Supervision Manual for Malaria, 2011	MOH September 2012	Intermediate-Level Nursing Curriculum for MNH, August, 2010
IPTp Timing	Not mentioned	At least 2 doses at least one month apart beginning at 20 weeks of pregnancy.	Need for malaria prophylaxis mentioned, but not specific dosing or timing.	Providers should give information and counseling on malaria prophylaxis in ANC; give 3 doses of IPT beginning at 20 weeks, or after quickening, or when the provider hears fetal heart sounds with a Pinard stethoscope; doses at least 4 weeks apart.	At least 2 doses of SP, one each during the first and second ANC visit; first dose after perception of fetal movement, around 20 weeks.	SP given at 20 weeks or after quickening (time not specified), every four weeks; number of doses not specified.	Record/register reviews to determine if IPTp is given correctly.	Monitoring and evaluation (M&E) indicators include IPTp for 1, 2, and 3 doses, for woman after 20 weeks of pregnancy; not more often than monthly.	First dose at 20 weeks; 2 subsequent doses at monthly intervals.

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS—CASE MANAGEMENT	IN-SERVICE TRAINING MATERIALS—MNH	SUPERVISION MATERIALS	MNH PERFORMANCE STANDARDS	PRE-SERVICE CURRICULUM
IPTp Dosing	Pregnant women should receive at least 2 doses of IPTp by DOT during ANC.	SP; dose not specified	Not mentioned	3 tablets of SP	SP, dose not specified	SP, 3 tablets at 4-week intervals	Record/register reviews to determine if IPTp is given correctly.	3 tablets of SP	SP, 3 tablets
DOT	Yes	Yes	Not mentioned	Yes	Yes, recommended	Yes, recommended	Not mentioned	Yes	Recommend
Linkages to HIV: What do the RH and malaria documents promote for HIV in pregnancy?	Not mentioned	Not mentioned	Not mentioned	HIV+ women not on cotrimoxazole should have 3 doses of IPTp; if on cotrimoxazole does not receive SP; if on ARVs does not receive IPTp.	In areas where HIV prevalence is >10%, a third dose of SP should be given. No mention of IPTp use if woman is on cotrimoxazole.	HIV module in package and mentions use of IPTp, but number of doses or timing not stated; no mention of cotrimoxazole during pregnancy.	Not mentioned	Not mentioned	Give 3 doses of IPTp to HIV+ women unless they are on ARVs or taking cotrimoxazole.
ITN Promotion	All pregnant women should receive a free long-lasting ITN during ANC.	Not mentioned	Not mentioned	Importance mentioned	Mentioned as important preventive measure.	Importance mentioned; recommended.	Not mentioned	Standard for counseling and furnishing ITN at first ANC visit.	Recommends their use
ITN Distribution	Not mentioned	Free distribution of long-lasting ITNs to all pregnant women at 1st ANC visit.	Not mentioned	Not mentioned	Not mentioned	ITN use described and recommended.	Register review to determine that ITNs are given at ANC visits.	Standard for counseling and furnishing ITN at first ANC visit.	Does not specify when or how they are obtained.
Malaria Diagnosis	All persons suspected of having malaria will have confirmatory testing via microscopy or RDT.	Either microscopy or RDT should be done before treating for malaria.	Not mentioned	Confirm diagnosis of malaria with microscopy or RDT.	Diagnosis of malaria via microscopy preferably, or with RDT, required before treatment.	Use microscopy or RDTs to establish diagnosis.	Record review to determine that RDT was used to diagnose malaria in ANC setting; direct observation of microscopy and RDT techniques.	Obtains RDT if woman has signs/symptoms of malaria.	Microscopy prior to initiating treatment is recommended.

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS—CASE MANAGEMENT	IN-SERVICE TRAINING MATERIALS—MNH	SUPERVISION MATERIALS	MNH PERFORMANCE STANDARDS	PRE-SERVICE CURRICULUM
Treatment: Uncomplicated malaria	Appropriate treatment for malaria will be available free at all levels of the health care system; specific drugs not mentioned.	**1st trimester:** oral quinine, 600 mg every 8 hours for 7 days. **2nd and 3rd trimesters**: AL 20/120—4 tabs every 12 hours for 3 days.	Need for strengthening of EmONC capacity mentioned, but not MIP specifically.	**1st trimester**: oral quinine 10mg/kg (600 mg) every 8 hours for 7 days. **2nd and 3rd trimester**: AL—4 tabs every 12 hours for 3 days.	**1st trimester**: oral quinine. **2nd and 3rd trimesters:** AL	**1st trimester**: oral quinine per national guidelines. **2nd and 3rd trimesters:** ACTs—AL, per national guidelines.	Record/register review to determine that uncomplicated MIP was treated according to NMCP norms.	Standards in ANC clinics for presence of RDTs, SP, quinine, and Coartem in health centers to prevent, diagnose, and treat pregnant women with malaria. **Uncomplicated malaria**: **1st trimester**: use oral quinine 600 mg every 8 hours for 7 days; refer for complicated malaria. **2nd and 3rd trimesters:** No other information.	Trimesters not specified. Uncomplicated malaria: oral quinine, 600 mg every 8 hours for 7 days.
Treatment: Severe malaria		**1st trimester:** IV quinine, 10 mg/kg every 8 hours until oral medication is tolerated, then oral quinine 10 mg/kg every 8 hours to complete 7 days (21 doses) of treatment. **2nd and 3rd trimesters:** artesunate 2.4 mg/kg IM or IV at 0, 12, and 24 hours, then daily until oral medication is tolerated, complete with either oral quinine or AL.		**1st trimester:** parenteral quinine 10mg/kg every 8 hours until patient can begin oral treatment; then continue as per uncomplicated malaria. **2nd and 3rd trimesters:** artesunate 2.4 mg/kg IV or IM every 12 hours for 3 doses, then begin oral medication as able.	**1st trimester:** IV quinine. **2nd and 3rd trimester:** parenteral artesunate (2.4 mg/kg at hours 0, 12, and 24, then daily for 7 days, moving to oral when possible) and quinine (1,200 mg loading dose, then 600 mg every 8 hours, reducing to 300 mg after 48 hours).	**1st trimester** parenteral quinine. **2nd and 3rd trimesters:** parenteral artesunate; or quinine; if trained, give loading dose of medication per national guidelines and refer immediately.		Standards for labor and delivery care of complications for severe malaria in: **1st trimester:** quinine. **2nd and 3rd trimesters:** use as first-line treatment artesunate, and second-line quinine. Artesunate IV/IM 2.4 mg/kg at hours 0, 12, and 24, then daily for 7 days.	600 mg parenteral quinine every 8 hours until clinical improvement, then oral quinine to complete 7 days of treatment. If in lower level facility, transfer woman to higher level, but give first dose of quinine.

Appendix 14: Nigeria

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL GUIDELINES FOR MALARIA IN PREGNANCY	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Documents	National Policy on Malaria Diagnosis and Treatment, reviewed 2011 (MOH, Natl. Malaria and Vector Control Division0	National Guidelines for Diagnosis and Treatment of Malaria (MOH, National Malaria and Vector Control Division, 2011)	National Guidelines and Strategies for Malaria Prevention and Control during Pregnancy (draft, MOH, 2013)	National Reproductive Health Policy (MOH, 2010)		Training Manuals on Malaria: trainer manual (MOH, NMCP, 2012) Main resource: Module 5		
IPTp Timing	2 doses during pregnancy, the first after quickening (weeks not mentioned), the second at least 1 month later.	First dose after quickening, 2nd dose not earlier than 1 month later.	Start at 13 weeks and repeated 1 month apart up to 3 doses or more (one section states: "As early as possible in the second trimester (first fetal movement – from 13 weeks").	Malaria as a cause of maternal mortality is noted; no other specific information on MIP.		SP should be given twice in pregnancy after quickening, from 16 weeks of pregnancy, at least 1 month apart. (Per draft 2013 this could be changed to 1st dose as early as possible in the 2nd trimester and then no more often than monthly for 3+ doses.)		
IPTp Dose	SP, # of tablets not specified	SP (500 mg/25 mg), 3 tablets	SP (500 mg/25 mg), 3 tablets. Folic acid 0.4 mg is recommended as safe to take with SP			SP (500 mg/25 mg), 3 tablets; withhold folic acid for 1 week after SP—folic acid dose not mentioned		
DOTs	Recommended	Recommended	Recommended			Recommended		
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	HIV+ pregnant women on cotrimoxazole should not take SP.	HIV+ women on cotrimoxazole should not take SP.	HIV+ women on cotrimoxazole should not receive SP.			HIV+ women on cotrimoxazole should not receive SP.		

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL GUIDELINES FOR MALARIA IN PREGNANCY	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
ITN Promotion	BCC messages should promote use of bednets.	Not mentioned	Long-lasting ITN use should be encouraged as early as possible in pregnancy.			All women should be encouraged to use a long-lasting ITN as early in pregnancy as possible.		
ITN Distribution	ITNs should be available to pregnant women, method of distribution not specified.	Not mentioned	Through ANC clinics or other private and public sector outlets.			Long-lasting ITNs should be provided to women as early in pregnancy as possible at the ANC clinic.		
Diagnosis	Microscopy or RDT should be used for diagnosis whenever possible.	Parasitological confirmation recommended with microscopy or RDT before treatment.	Parasitological confirmation is recommended for all suspected cases of malaria.			Parasitological diagnosis should precede treatment.		
Treatment	**Uncomplicated malaria** 1st trimester: The antimalarial medicine considered to be safe and recommended for use during the first, second and third trimesters is *Quinine salt*, administered orally as 10mg/kg, every 8 hours for 7 days. 2nd and 3rd trimesters: AL and AS/AQ, and can be used in the 1st trimester, if quinine is not available or compliance to treatment with quinine cannot be assured.	**Uncomplicated malaria** 1st trimester: oral quinine, 10 mg/kg every 8 hours for 7 days. 2nd and 3rd trimesters: AL (20 mg/120 mg), 4 tablets twice daily for 3 days. **Severe malaria:** 1st trimester: quinine IV/IM. 2nd and 3rd trimesters: artesunate IV/IM, 2.4 mg/kg, repeat in 12 hours, then daily until oral ACTs can begin, to complete 7 days; or quinine IM/IV, 20 mg/kg loading dose, then 10 mg/kg maintenance every 8 hours for minimum of	**Uncomplicated malaria** Oral quinine safe in all trimesters, 10 mg/kg up to a maximum 600 mg 3 times/day for 7 days; 2nd and 3rd trimesters: AL (20 mg/120 mg) 4 tabs twice daily for 3 days; AS/AQ (100 mg/270 mg), 2 tablets once daily for 3 days can also be used. **Severe malaria** The first line treatment for severe malaria in all trimesters is parenteral Artesunate at 2.4mg/kg stat, then at 12hrs and 24hrs, given for a minimum of 24hrs even if oral intake is tolerated; then change to a full course of ACTs. However, if parenteral			**Uncomplicated malaria**: 1st trimester: oral quinine, 10 mg/kg every 8 hours for 7 days; 2nd and third trimesters: AL (20 mg/120 mg), 4 tabs at time 0, 4 tabs in 8 hours, then every 12 hours to complete 3 days. **Severe malaria:** IV artesunate; if not available, IV quinine, doses and trimesters not specified unless it is assumed that usual adult doses are used: quinine 20 mg/kg loading dose, followed in 4 hours by 10 mg/kg, maintenance dose, then every 8 hours		

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL GUIDELINES FOR MALARIA IN PREGNANCY	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
	Severe malaria: Quinine and artemisinin derivatives are safe throughout pregnancy, but treatment not specified.	24 hours, then if oral intake possible, complete treatment with oral AL.	Artesunate is not available, parenteral quinine can be used. Commence treatment while awaiting laboratory test results (RDTs inclusive). Parenteral quinine: 20 mg/kg loading dose, then 10 mg/kg every 8 hours for minimum of 24 hours, then orally when oral intake is tolerated. (Accompanying algorithm states to give parenteral quinine in 1st trimester)			for at least 24 hours; when oral intake is tolerated complete with ACT for 7 days (pregnancy not specified so unknown if oral quinine should be given in 1st trimester); artesunate - 2.4 mg/kg IV every 12 hours for a minimum of 24 hours, then ACTs to complete 7 days of treatment.		

Additional documents reviewed and related noteworthy findings include:

- Strategic Plan 2009–2013: a road map for malaria control in Nigeria (MOH, NMCP). Pregnant women will receive a long-lasting ITN at ANC; 2 doses of SP will be given by DOT, one in the first and one in the second trimester; HIV+ women will receive 3 doses.
- FANC training manual (no date but has MNH logo on it). Follows other recommendations for SP above – 2 doses after quickening.
- Revisions to LSS manual, no logo, no date but saved as a draft edited in 2013: IPTp timing: 1st dose at 16 weeks or after quickening; then at scheduled ANC visits at least 1 month apart; withhold folic acid for 1 week after SP (no folic acid dose mentioned); IPTp dose: SP (500 mg/25 mg) 3 tabs; DOT recommended; counseling on long-lasting ITN use should be done; give long-lasting ITN if available; HIV linkages not mentioned; Diagnosis: recommends parasitological confirmation; Uncomplicated malaria: 1st trimester: oral quinine 10 mg/kg up to 600 mg every 8 hours for 7 days; 2nd and 3rd trimester AL 4 tablets twice daily for 3 days; or AS/AQ (100 mg/270 mg) 2 tablets daily for 3 days; Severe malaria: IV artesunate 2.4 mg/kg every 12 hours for at least 24 hours, then go to "complete dose of oral ACT" when able.

Appendix 15: Rwanda

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
		National Guidelines for the Management of Malaria in Rwanda (TRAC Plus, 2009)	National Reproductive Health Policy (MOH, 2003)	National Health Norms and Guidelines (MOH, 2010)	Focused Antenatal Care: platform for integration of maternal and newborn care, including MIP (2008 WHO, CDC, ACCESS; reference manual carries MOH logo)		
IPTp Timing	Not applicable as IPTp-SP use was stopped in 2008	N/A	Systematic preventive treatment should be promoted in endemic areas. No other specifics mentioned.	N/A	N/A		
IPTp Dose	Not applicable as IPTp-SP use was stopped in 2008.	N/A	N/A	N/A	N/A		
DOTs	Not applicable as IPTp-SP use was stopped in 2008	N/A	N/A	N/A	N/A		
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?		No mention.	Not mentioned	Not mentioned	HIV+ pregnant women taking cotrimoxazole are protected against malaria during pregnancy.		
ITN Promotion		ITNs should be promoted especially to under-fives and pregnant women.	ITNs should be promoted at ANC visits.	Encourage woman to sleep under ITN.	Promote use of long-lasting ITNs as early in pregnancy as possible; if they are not available women should use ITNs.		
ITN Distribution		Long-lasting ITNs should be given to women at ANC.	Not specified.	Not specified	Diagram shows distribution of ITNs from NMCP to health centers and then to women, but no text explaining when/how women should receive them.		

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Diagnosis		All cases should be confirmed using microscopy or RDT.	Not mentioned.	Perform thick film	Recommends parasitological confirmation via microscopy or RDT before treatment		
Treatment	.	**Uncomplicated malaria** 1st trimester: Oral quinine 10 mg/kg 3 times/day for 7 days; 2nd and 3rd trimesters: AL (20 mg/120 mg), 4 tablets twice daily for 3 days. **Severe malaria** 1st trimester, prior to referral: 20 mg/kg quinine IV loading dose; then 10 mg/kg every 8 hours until oral intake is possible, then oral quinine 10 mg/kg every 8 hours to complete 7 days of treatment. 2nd and 3rd trimesters: artemether 3.2 mg/kg IM prior to referral. Complete treatment with AL (20 mg/120 mg) to complete 3 days of treatment. (WHO Guidelines for Treatment of Malaria, 2006, are referenced)	Not mentioned.	**Uncomplicated malaria** 1st trimester: oral quinine – referred to the treatment guidelines for dose. 2nd and 3rd trimesters: Coartem (AL), referred to treatment guidelines for dose. **Severe malaria:** referred to treatment guidelines.	**Uncomplicated malaria** 1st trimester: oral quinine, 10 mg/kg 3 times/day for 7 days 2nd and 3rd trimesters: AL, using usual adult dose **Severe malaria** 1st trimester: quinine, 20 mg/kg IV as loading dose and refer. 2nd and 3rd trimester: Artemether 3.2 mg/kg loading dose IM, then refer. Accompanying table shows maintenance dose of quinine, 10 mg/kg every 8 hours for 3 days – no mention of starting oral medication and completing 7 days of treatment.		

Additional documents reviewed and related noteworthy findings include:

- Rwanda Malaria Strategic Plan 2012–2017 (draft) (Rwanda Biomedical Center, preface by MOH): At the end of 2005, Rwanda adopted IPTp to prevent malaria during pregnancy. However, following evidence of resistance to SP and high prevalence of gene mutations for SP resistance (Dhfr, Dhps) and the remarkable decrease in malaria transmission, Rwanda suspended the use of IPTp-SP during antenatal consultations in 2008.
- Reproductive Health Policy (MOH, 2003): Malaria and RH are closely related (anemia aggravating obstetrical hemorrhaging, placental malaria, etc.). Malaria must be detected and treated. According to WHO, antenatal consultations should include the promotion of the utilization of impregnated mosquito nets, as well as systematic preventive treatment of pregnant women in endemic areas.
- "Instruction on the distribution of ITNs for children aged 9 months presenting for measles immunization and pregnant women during ANC," published by MOH and distributed to district and hospital managers in December, 2011, which states that pregnant women should be given ITNs at no charge during the 1st ANC visit.

Appendix 16: Senegal

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Documents			Strategic Plan for RH 2011 – 2015 (MOH, no date)	Policies Norms and Protocols (no logo or date; file says field test version 2012)	Training manual for treatment of malaria – participant guide (MOH, NMCP, 2010)		
IPTp Timing			Mentions importance of prevention of malaria during pregnancy but no other specifics.	1st dose at 16 weeks or perception of fetal movement; 2nd dose at 28 weeks. All doses should be at least 1 month apart.	1st dose at 16 weeks or quickening; 2nd dose between 28 and 34 weeks.		
IPTp Dose				SP (500 mg/25 mg), 3 tabs	SP (500 mg/25 mg), 3 tabs. (If woman is fasting she must eat before taking the SP)		
DOTs				Yes	Yes		
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?				HIV+ women receive a 3rd dose of SP at least one month after the 2nd. No mention of women on cotrimoxazole.	3rd dose of SP given to HIV+ women at least 1 month after the 2nd; not to be used for women on cotrimoxazole.		
ITN Promotion				Women should be counseled to use long-lasting ITNs	ITN use should be promoted and counseling done during ANC.		
ITN Distribution				Prescription for long-lasting ITN given at first ANC visit, where it is taken to redeem is not specified.	Prescription should be given to woman for long-lasting ITN.		
Diagnosis				RDT or microscopy should be used to confirm diagnosis	Diagnosis should be confirmed with RDTs or microscopy.		

MIP AREAS OF GUIDANCE	NATIONAL MALARIA POLICY	NATIONAL MALARIA GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Treatment				**Uncomplicated malaria** Treatment not specified **Severe malaria** 25 mg/kg/day of quinine base either every 8 or 12 hours for 5–7 days; may go to oral ACTs when able.	**Uncomplicated malaria** The document suggests that any malaria in a pregnant woman should be considered "grave," and the only treatment guideline for MIP is for severe malaria. Although adults with uncomplicated malaria should be given AL or AS/AQ, use of ACTs in pregnancy is not mentioned; there is no guideline for oral quinine in the 1st trimester. **Severe malaria** Parenteral quinine, 25 mg/kg/day in 2–3 divided doses for 5–7 days; use oral quinine (dose not given) when patient can tolerate oral intake.		

Additional documents reviewed and related noteworthy findings include:

- National Health Development Plan 2009–2018 (MOH, 2009): importance of 2 doses of IPTp and long-lasting ITNs in pregnancy mentioned but no specifics given.

Appendix 17: Tanzania

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS/QI TOOL FOR FANC	PRE-SERVICE CURRICULUM
Documents	A separate policy document does not exist	National Guidelines for the Diagnosis and Treatment of Malaria, NMCP, January 2006; presently under revision	National Health Policy, October 2003. There is no separate RH policy, no specific mention of MIP.	National Policy Guidelines for Reproductive and Child Health Services; May 2003. No specific mention of MIP.	Focused Antenatal Care, Malaria and Syphilis in Pregnancy Package for ANC Providers and Supervisors, 2008; NMCP and MOH	Focused Antenatal Care, Malaria and Syphilis in Pregnancy using SBMR Process, 2011; MOH/ACCESS Program (used by MOH, but still considered to be draft version)	Clinical Assistant/ Clinical Officer Training Package, MOH, August 2010
IPTp Timing		First dose 20–24 weeks; second dose 28–32 weeks.			First dose 20–24 weeks; second dose 28–32 weeks, at least 1 month apart although this can be modified if woman presents outside these parameters; not given after 32 weeks.	Begin SP at 20 weeks of gestation or more; doses 4 weeks apart; number of doses not clear.	First dose at 20–24 weeks; second dose at 28–32 weeks.
IPTp Dosing		SP 3 tablets			SP 3 tablets.	SP 3 tablets	SP 3 tablets
DOT		Use DOT			Use DOT	Use DOT	Use DOT
Linkages to HIV: What do the RH and Malaria documents promote for HIV in pregnancy?		HIV+ women should have 3 doses of IPTp (no timing given) or daily cotrimoxazole.			Use of IPTp for HIV+ women not mentioned.	If CD4 <350 should get cotrimoxazole; cotrimoxazole should be suspended to give 3 doses of IPTp at least one month apart; unclear whether or when cotrimoxazole should be resumed. ITN use recommended.	No mention of HIV+ women and need for IPTp.

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS/QI TOOL FOR FANC	PRE-SERVICE CURRICULUM
ITN Promotion		ITNs advised			ITNs advised	Counsel about use of and need for ITNs.	Counsel on ITN use
ITN Distribution		Not mentioned			Not mentioned	Give voucher to buy ITN, not specified where it must be bought.	Not mentioned
Malaria diagnosis		All patients admitted with severe malaria should have microscopy if possible, complemented by RDTs.			Diagnose malaria with microscopy or RDT if possible before treating.	Should do microscopy or RDT before giving antimalarials.	No mention of diagnosis with microscopy or RDT prior to treatment.
Treatment: Uncomplicated malaria		**1st trimester**: oral quinine, 10 mg/kg every 8 hours for 7 days; (AL only if quinine not available). **2nd and 3rdtrimesters**: AL 2 tabs twice/day for 3 days.			**1st trimester**: oral quinine, dose not specified. **2nd and 3rd trimesters:** AL, 4 tabs start dose, repeated in 8 hours; then every 12 hours for 2 more days.	Verification criteria for case management according to national guidelines. **Uncomplicated malaria**: **1st trimester**: oral quinine 300 mg orally every 8 hours for 7 days. **2nd and 3rd trimesters:** AL every 12 hours for 3 days.	**1st trimester**: oral quinine for 7 days, unless not available, then AL (doses not specified). **2nd and 3rd trimester**: AL 4 tabs every 8 hours first day, then every 12 hours for 2 more days.
Treatment: Severe malaria		**Severe malaria in all trimesters:** 600 mg quinine IV every 8 hours until oral can be started; continue for 7 days.			**Severe malaria all trimesters**: quinine 10 mg/kg every 8 hours IM or IV until able to take oral medication; quinine 10 mg/kg every 8 hours to complete 7 days of treatment if in **1st trimester**, or full treatment with AL in **2nd and 3rd**trimesters.	Treatment not divided by trimester; states to urgently refer to the referral hospital, or administer artesunate suppositories, or quinine 20 mg/kg IM.	**Severe malaria all trimesters:** IV quinine 600 mg every 8 hours for 7 days; start oral when able.

Additional documents reviewed and related noteworthy findings include:

- National Road Map Strategic Plan for Acceleration of Reduction of MN Mortality, 2008–2015. General support for training of providers in quality ANC; use of ITN promoted; indicator for use of 2 doses of IPTp. "A focus on the continuum of care replaces competing calls for mother or child, with a focus on high coverage of effective interventions and integrated MNCH [maternal, newborn, child health] service packages as well as other key programs such as Safe Motherhood (SM), Family Planning (FP), Prevention of Mother to Child Transmission (PMTCT) of HIV, Malaria, EPI [Expanded Program on Immunization], integrated management of childhood illnesses, adolescent health, and nutrition. Sustained investment and systematic phased scale up of essential MNCH interventions integrated in the continuum of care are required."
- National Health Policy 2003—no later version received: "The Government is committed to reduce the burden of disease due to Malaria. To address the problem, the Ministry of Health will apply four strategic approaches: Improved Malaria case management; Use of Insecticide Treated mosquito Nets (ITNs); Control of Malaria in pregnancy; and Malaria epidemics prevention and control. All these strategies will be complemented by IEC on control and prevention."
- National Guidelines for Comprehensive Care of PMTCT, June, 2012.Advises providers to ask about signs/symptoms of malaria during ANC; pregnant women on cotrimoxazole do not need IPTp, but women not eligible for cotrimoxazole should take SP for IPTp. Acute cases of malaria should be identified and treated according to national guidelines. Counseling about use of ITNs is mentioned several times.

Appendix 18: Uganda

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM	NOTES FROM FLOW CHART ON MIP
Documents	National Malaria Control Policy, May 2009	From Management of Uncomplicated Malaria, 3rd Edition, from MOH, no date	National Policy Guidelines and Service Standards for Sexual and Reproductive Health and Rights, Reproductive Health Division, MOH, 2012	These are combined in the Policy Guidelines and Service Standards	Refresher Training Guide for MIP, NMCP, 2011	Very short section on supervision in the Refresher Training Guide for MIP	No pre-service education materials presently exist, but the MOH plans to address this gap	
IPTp Timing	IPTp will consist of at least two doses of SP given at a minimum of one month apart.	The first dose of SP is given during the 4th to 6th months of pregnancy. The second dose of SP is given during the 7th to 9th months. There must be an interval of at least 4 weeks between doses.	At second ANC visit, 24–28 weeks; repeat at <36 weeks.		"Protection against malaria is important throughout pregnancy and most important between 16–28 weeks."			First dose during the 4th to 6th months of pregnancy. Second dose during the 7th to 9th months of pregnancy.
IPTp Dosing	Not delineated	SP, 3 tablets	Not mentioned		"SP can be given on the same day that a woman is treated for an episode of malaria." Give 2 doses of SP (3 tabs) at least one month apart anytime between 16–40 weeks, but ideally 1st dose is between 16–24 weeks, second dose is between 28–34 weeks.			SP, 3 tablets. Suspend use of folic acid (5 mg) for one week after IPTp.
DOT	Supplies for delivery of IPTp by DOT, (e.g., cups and safe drinking water).	Yes	Not mentioned		IPTp should be given by DOT and the facility should be able to wash cups for sharing by clients.			

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM	NOTES FROM FLOW CHART ON MIP
Linkages to HIV: What do the RH and malaria documents promote for HIV in pregnancy?	Not mentioned	Not mentioned	Not mentioned		HIV+ pregnant women should get 3 doses of IPTp with SP starting after 16 weeks. It is unclear if a woman on cotrimoxazole should also receive IPTp with SP.			
ITN Promotion	To ensure every pregnant woman sleeps under a long-lasting ITN throughout her pregnancy and thereafter. All pregnant women shall have access to cost-effective preventive interventions, including long-lasting ITNs and IPTp. There shall be strategic and rigorous communication campaigns to promote correct use of long-lasting ITNs.	To prevent new malaria infections, pregnant women should be advised to sleep under ITNs.	Promotion of ITN as part of pre-conception counseling; ITN use counseled during ANC.		"In much of the country long-lasting ITNs will be given free during ANC," but mechanism is not explained. Section on counseling of mother in ANC about importance of accepting and using the net every night.			Use recommended
ITN Distribution	Uganda will continue with a mixed-model approach: large-scale, free campaign distributions targeted routine distribution (e.g., ANC and routine EPI distribution) and support to the commercial sector.	Not mentioned	Not mentioned		Make sure women have access to long-lasting ITNs from the start of their pregnancy; providers should give one to each woman at the first ANC visit if she has not received one from another clinic; check on ANC card that she received it.			Not mentioned

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM	NOTES FROM FLOW CHART ON MIP
Diagnosis	Parasite-based diagnosis with microscopy or RDTs shall be part of malaria case management in all health facilities.	Microscopy should be done where available for pregnant women with signs of uncomplicated malaria, and all people with signs of severe malaria. Given the current limitations of RDTs, their use should be considered only in special situations (such as verifying malaria epidemics, children under 4 months of age); their routine use is therefore not recommended.	Not mentioned		Confirmatory lab tests required where possible.			Not mentioned
Treatment: Uncomplicated malaria	All pregnant women who present with suspected malaria shall receive prompt diagnosis and effective case management using quinine during the first trimester and ACTs during the second and third trimesters. No differentiation of uncomplicated and severe malaria in pregnancy, though in other groups parenteral quinine is first-line treatment and artesunate or artemether are the alternatives.	Any patient with fever or a history of fever within the last 24 hours without evidence of other diseases should be treated for malaria even with a negative blood smear for malaria parasites. Any pregnant woman presenting with fever should be treated for malaria. Throughout pregnancy, quinine should be used as the first-line treatment. **1st trimester**: it is not recommended to take ACTs.	Not described		**1st trimester**: oral quinine, 600 mg every 8 hours for 7 days; ACTs contraindicated in 1st trimester due to insufficient data. **2nd and 3rd trimesters**: oral quinine remains drug of choice, but ACTs can be used as first-line treatment. Give AL 4 tabs every 12 hours for 3 days.			**All trimesters:** Oral quinine 600 mg every 8 hours for 7 days. **2nd and 3rd trimester**: if quinine is not available, can give AL 4 tablets twice daily for 3 days.

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	IN-SERVICE TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE CURRICULUM	NOTES FROM FLOW CHART ON MIP
		2nd and 3rd trimester: If there are no suitable alternatives, ACTs may be used as first-line treatment. The doses of quinine and ACTs during pregnancy are the same as those for adults who are not pregnant.						
Treatment: Severe malaria		No specifics for pregnant women; before referral give 600 mg quinine as IM injection.			**All trimesters**: before referral give 10 mg/kg quinine IM; in-patient facilities can use IV quinine until stable, then start oral. 2nd and 3rd trimesters: ACT can also be used as first-line treatment in health facility.			If facilities are available treat according to guidelines for management of severe malaria; if not available give quinine IM and refer immediately.

Appendix 19: Zambia

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Documents		Guidelines for the Diagnosis and Treatment of Malaria in Zambia (MOH, 2010)	National Reproductive Health Policy (MOH, 2005, hard copy)	Integrated Technical Guidelines for Frontline Health Workers (MOH, 2009, hard copy)	Providing ANC: Participants Training Manual for ANC Providers (no logo, draft 2011)	Integrated Reproductive Health Supervisory Tool (MOH, 2007)	
IPTp Timing		1st dose after quickening (16 weeks after LMP); 2 more doses, at least 4 weeks apart, should be given.	Need for 3 doses of IPTp during ANC mentioned, no other specifics.	First dose after 16 weeks; 2 more doses, at least 4 weeks apart, during the 2nd and 3rd trimesters.	1st dose after quickening or after 16 weeks; 2nd dose at least 1 month after the 1st dose (24 – 28 week visit); 3rd dose at least 1 month after the second, at 28 – 36 weeks.	First dose no earlier than 16 weeks; next dose at least one month later; number of doses not mentioned.	
IPTp Dose		SP, 3 tablets		SP, dose not specified in malaria section; SP, 3 tablets in ANC section. Folic acid 5 mg throughout pregnancy recommended; no reference for need to suspend folic acid after SP dose.	SP, 3 tabs	3 tablets SP (500 mg/25 mg). (Folic acid 5 mg is used in Zambia, but no mention of suspending folic acid after giving SP)	
DOT		Not mentioned		Not mentioned in malaria section, mentioned in ANC section	Recommended	Recommended	
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?		HIV+ women on cotrimoxazole should not receive IPTp-SP.		No mention of HIV+ women in ANC portion of manual; HIV+ women on cotrimoxazole should not take SP (buried in the HIV section of the manual).	HIV+ women on cotrimoxazole should not receive IPTp-SP	No mention of placing HIV+ women on cotrimoxazole; states to give IPT and counsel on use of ITN.	

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	RH NATIONAL POLICY	RH NATIONAL GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
ITN Promotion		Women should be counseled to sleep under nets at night.		Use of ITNs should be promoted.	Should counsel on ITN use.	ANC provider should counsel women about use of ITNs.	
ITN Distribution		No specifics about distribution.		Should be distributed at ANC clinics, specifics not mentioned.	Not specifically mentioned.	ITN vouchers should be supplied in ANC clinics.	
Diagnosis		Parasitological diagnosis should be done if available.		Gold standard is microscopy; do RDT if no microscopy.	Confirmation by lab test should be done if available.	RDT should be done prior to treatment; if first treatment is not effective do microscopy.	
Treatment	.	**Uncomplicated malaria** 1st trimester: oral quinine 600 mg 3x/day for 7 days; 2nd and 3rd trimesters: AL (20 mg/120 mg), 4 tabs 2x/day for 3 days. **Severe malaria** Quinine is 1st line treatment for severe malaria: 20 mg/kg loading dose, then 10 mg/kg every 8 hours until oral meds can be taken, then 10 mg/kg every 8 hours to complete 7 days of treatment.		**Uncomplicated malaria** 1st trimester: oral quinine, no dose given; 2nd and 3rd trimesters: SP, 3 tablets. **Severe malaria** For all trimesters: parenteral (IV) quinine, 20 mg/kg loading dose, then maintenance dose of 10 mg/kg every 8 hours until oral quinine 10 mg/kg every 8 hours can be started, to complete 7 days.	**Uncomplicated malaria:** Refer to national guidelines; quinine can be used in all trimesters, but AL can be used in 2nd and 3rd. **Severe malaria** Parenteral quinine, 10 mg/kg every 8 hours, then 10 mg/kg orally every 8 hours when able to complete 7 days of treatment	**Uncomplicated malaria** Trimester not specified: Do RDT; if no SP in last month, give 3 tablets SP, tell woman to return if no response to treatment in 3 days; if no response start oral quinine 10 mg/kg every 8 hours for 7 days **Severe malaria** Give either quinine 1.2 Gm IV in 5% dextrose, or 600 mg orally, and refer immediately.	

Additional documents reviewed and related noteworthy findings include:

- WHO Pregnancy, Childbirth, Postpartum and Newborn Care: a guide for essential practice, adapted for use in Zambia (MOH, no date). IPTp: first dose at 16–20 weeks, 2nd dose a month later, 3rd dose a month after the 2nd; Fansidar (SP, 500 mg/25 mg), 3 tablets. Can give up to time of delivery but monitor baby for jaundice. DOT not specified. Should counsel on ITN use and where to obtain net. HIV+ women: not mentioned. Diagnosis: not mentioned; Treatment: Uncomplicated malaria: 1st trimester – oral quinine 10 mg/kg 3 times/day for 7 days (300 mg tablets x2 = 600 mg at each dose). IV injection doses also given under presumed section for uncomplicated malaria. 2nd and 3rd trimesters: First-line drug is SP 3 tablets at one time; 2nd line drug is quinine or AL 4 tabs 2 times/day for 3 days. Severe malaria: no trimesters mentioned; drug of choice is quinine, no doses/routes given.

Appendix 20: Zimbabwe

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
Documents	Zimbabwe National Malaria Prevention and Control Policy (MOH, 2010)	Guidelines for Management of Malaria in Zimbabwe: diagnosis, management of uncomplicated and severe malaria (MOH and partners, revised 2009)	National Reproductive Health Policy (draft, MOH, 2012)	Reproductive Health Service Delivery Guidelines (MOH, 2001)	MIP: Training Manual for Health Care Workers (MOH, 2011)	Guidelines for Implementing Integrated Supportive Visits for Quality Improvements in Malaria Control (NMCP, 2011)	
IPTp Timing	First dose at 16 weeks/quickening, 2nd at 26–28 weeks, 3rd at 34–36 weeks, at least 4 weeks apart.	Not mentioned	Not mentioned	In regions of potentially year-round and essentially seasonal endemicity: First dose at booking (1st or 2nd trimester); second dose at 26–28 weeks; 3rd dose at 34–36 weeks; all doses at least one month apart. Also mentioned: anemia prevention with folic acid, 5 mg daily. No mention of stopping folic acid after SP.	First dose after 16 weeks or after quickening (only for women residing in moderate to high transmission areas—not named); 2nd dose at 26–28 weeks; 3rd at 34–36 weeks (always at least one month after the last dose). Recommends calculation of gestational age by: last menstrual period (LMP); abdominal palpation; onset of quickening; ultrasound where available.	Focus is on review of records/registers, presence of commodities, training of providers. No guidelines given about prevention or case management of MIP.	
IPTp Dose	SP, 3 tablets	Not mentioned	Not mentioned	SP, 3 tablets	SP, 3 tablets		
DOT	Recommended	Not mentioned	Not mentioned	Not mentioned	Recommended		
Linkages to HIV: what do the RH and malaria documents promote for HIV+ pregnant women?	Women on cotrimoxazole should not receive SP.	Not mentioned	Not mentioned	Not mentioned	HIV+ women on cotrimoxazole should not receive IPTp-SP		
ITN Promotion	Use of long-lasting ITNs for all citizens recommended.	Not mentioned	Not mentioned	Not mentioned	ITNs should be promoted in ANC.		

MIP AREAS OF GUIDANCE	MALARIA NATIONAL POLICY	MALARIA NATIONAL GUIDELINES	NATIONAL RH POLICY	NATIONAL RH GUIDELINES	TRAINING MATERIALS	SUPERVISION MATERIALS	PRE-SERVICE
ITN Distribution	Not specified.	Not mentioned	Not mentioned	Not mentioned	Not specified		
Diagnosis	Not mentioned	Confirmation of diagnosis should be by microscopy or RDT.	Not mentioned	Not mentioned	Parasitological confirmation should be done before treatment.		
Treatment	**Uncomplicated malaria** Pregnancy not mentioned specifically, but adult treatment is AL 4 tabs stat, 4 tabs in 8 hours, then 4 tabs every 12 hours to complete 3 days of treatment. **Severe malaria** Pregnancy not specifically mentioned but for all adults: IV quinine, 20 mg/kg loading, then 10 mg/kg maintenance every hours until oral meds possible, length of treatment not specified, oral dose not specified.	**Uncomplicated malaria** 1st trimester: Oral quinine 600 mg every 8 hours for 7 days, and clindamycin 300 mg every 8 hours for 7 days. 2nd and 3rd trimesters: AL, 4 tablets stat, 4 tablets in 8 hours, then 4 tablets every 12 hours to complete 3 days of treatment. **Severe malaria** Pregnancy not specifically mentioned. For all adults: IV quinine, 20 mg/kg loading dose, then 10 mg/kg maintenance dose every 8 hours until oral meds can be tolerated; switch to clindamycin 300 mg every 8 hours to complete 7 days of treatment.	Not mentioned	Reader is referred to "current protocols," not included in this manual	**Uncomplicated malaria** 1st trimester: oral quinine, 600 mg every 8 hours for 7 days, AND clindamycin 300 mg every 8 hours for 7 days; 2nd and 3rd trimesters: Coartemether (AL) tablets, 4 at initial dose, 4 tablets after 8 hours; then every 12 hours to complete 3 days of treatment; OR oral quinine 600 mg every hours for 7 days. **Severe malaria** Quinine IM or IV is the drug of choice for all trimesters until oral medication can be taken. Loading dose 20 mg/kg, then 10 mg/kg every 8 hours, then oral quinine 10 mg/kg every 8 hours to complete 7 days of treatment, in combination with clindamycin 300 mg every 8 hours. After the 1st trimester artemether IM can be given, 3.2 mg/kg as first dose, then 1.6 mg/kg daily.		

Additional documents reviewed and related noteworthy findings include:

- Malaria Case Management in the Community (MOH, 2013): CHWs should counsel pregnant women on use of long-lasting ITNs; counsel about need for ANC as early as possible. Table for IPTp (to be provided at ANC): 1st dose at 16 weeks or quickening; 2nd at 26–28 weeks; 3rd at 34–36 weeks, 3 tabs SP as DOT, at least 4 weeks apart; only for women living in areas of moderate to high transmission of malaria. HIV+ pregnant women on cotrimoxazole should not receive SP. Treatment for pregnant women with uncomplicated malaria–do RDT, and if after quickening, give Coartem per guidelines for adults (initial dose 4 tabs, followed in 8 hours by 4 tabs, then 4 tabs every 12 hours for next 2 days). If no quickening or severe malaria, refer to health center for treatment.
- Guidelines for Implementing Integrated Supportive Visits for Quality Improvements in Malaria Control (NMCP, 2011). Mainly looks at whether information is being gathered on malaria services per registers, reporting forms, presence of commodities (medications, RDTs, and number of health workers trained). No specifics on managing MIP prevention or treatment. No mention of ITNs.
- The Zimbabwe Maternal and Neonatal Health roadmap 2007–20015 (MOH and partners, no date): mentions provision of 3 doses of IPTp.
- Hard copy of Facilitator's Manual for Malaria in Pregnancy, companion to training manual described above; mainly gives group activities, role plays, and discussion points.