

# Overview of Components of Toolkit to Improve Early and Sustained Intermittent Preventive Treatment in Pregnancy (IPTp) Uptake

## IPTp Toolkit Components and Content

Component	Audience	Primary Objective	Content Overview
<b>Job aid (1 page)</b>	ANC providers	To improve initiation of IPTp-SP as early as possible in the second trimester and promote sustained provision of IPTp throughout pregnancy; guide ANC providers to determine if the client is eligible to receive IPTp-SP.	<ul style="list-style-type: none"> <li>Criteria for administration of IPTp-SP, according to 2012 WHO guidance</li> <li>Diagnosis of onset of second trimester</li> <li>Reminders for related routine ANC and continuing MIP interventions</li> </ul>
<b>Technical Summary (1 page)</b>	<ul style="list-style-type: none"> <li>Ministry of Health staff (e.g., maternal and newborn health, malaria)</li> <li>Regional/district health management teams</li> <li>Facility supervisors</li> <li>Local implementing partners</li> </ul>	To provide summary of technical knowledge relevant to implementation of the job aid	<ul style="list-style-type: none"> <li>2012 WHO MIP policy guidance on administration of IPTp-SP<sup>1</sup></li> <li>Background on GA assessment in early second trimester</li> <li>Brief list of related toolkit content</li> </ul>
<b>PowerPoint (29 slides)</b>	<ul style="list-style-type: none"> <li>Regional/district supervisors</li> <li>Facility supervisors</li> <li>ANC trainers</li> <li>Local implementing partners</li> </ul>	To introduce relevant clinical and program content on appropriate timing of IPTp-SP	<ul style="list-style-type: none"> <li>Background/rationale, 2012 WHO MIP policy guidance, determination of GA through LMP, history taking, abdominal palpation, other parameters as appropriate and available</li> </ul>

<sup>1</sup> WHO policy brief for the implementation of intermittent preventive treatment of malaria in pregnancy using sulfadoxine-pyrimethamine (IPTp-SP) April 2013 (revised January 2014). Available at: <http://www.who.int/malaria/publications/atoz/iptp-sp-updated-policy-brief-24jan2014.pdf?ua=1>.

Component	Audience	Primary Objective	Content Overview
<b>Toolkit Implementation Guide (6 pages)</b>	<ul style="list-style-type: none"> <li>• Regional/district supervisors</li> <li>• ANC trainers</li> <li>• Local implementing partners</li> </ul>	<p>To provide guidance on how, when, and where to use the job aid and related toolkit materials.</p>	<ul style="list-style-type: none"> <li>• Background</li> <li>• Purpose and Components of the Toolkit</li> <li>• Antenatal Care as the Platform for IPTp-SP</li> <li>• Ensuring Availability of Commodities for Prevention of Malaria in Pregnancy</li> <li>• Orientation of Stakeholders, Partners, and Providers to the Toolkit</li> <li>• Monitoring and Evaluation</li> <li>• References and Resources</li> <li>• Appendix I. Supply Chain Management Resources</li> <li>• Other materials to implement the toolkit include: <ul style="list-style-type: none"> <li>• Sample agenda and session plan for orientation workshop on job aid</li> <li>• Simple knowledge pre- and post-test</li> <li>• Skills Checklist <ul style="list-style-type: none"> <li>• LMP history-taking</li> <li>• Gestational wheel</li> <li>• Abdominal palpation</li> </ul> </li> <li>• Sample certificate of completion for orientation to toolkit</li> </ul> </li> </ul>

**Acronyms:**

- ANC            antenatal care
- GA             gestational age
- IPTp-SP        intermittent preventive treatment with sulfadoxine-pyrimethamine
- LMP            last menstrual period
- WHO            World Health Organization



# Technical Summary: Administration of Intermittent Preventive Treatment in Pregnancy with Sulfadoxine-Pyrimethamine in Early Second Trimester of Pregnancy

## World Health Organization Guidance on Administration of IPTp-SP

Malaria in pregnancy (MIP) presents substantial risks to the mother, fetus, and newborn, including malaria, maternal and fetal anemia, low birthweight, and increased newborn mortality. Beginning in 2004, the World Health Organization (WHO) recommended a three-pronged approach for prevention and case management of MIP that includes use of insecticide-treated nets, intermittent preventive treatment in pregnancy with sulfadoxine-pyrimethamine (IPTp-SP), and prompt and effective case management of malaria illness.<sup>1</sup> Coverage of these interventions, particularly IPTp-SP, has not met targets in most countries, which is now to achieve and sustain universal access for every person at risk.<sup>2</sup> Thus, in 2012, the WHO updated its recommendations on IPTp-SP and urged national health authorities to adopt and disseminate this information.<sup>3</sup>

The 2012 WHO recommendations on IPTp-SP are:

Starting as early as possible in the second trimester (13 weeks), IPTp-SP is recommended for all pregnant women at each scheduled antenatal care visit until the time of delivery, provided that the doses are given at least one month apart. SP should not be given during the first trimester of pregnancy, but the last dose of IPTp-SP can be administered up to the time of delivery without safety concerns.

In addition:

- IPTp-SP should ideally be administered as directly observed therapy of three tablets of SP (each tablet containing 500 mg/25 mg SP), giving the total required dosage of 1,500 mg/75mg SP.
- SP can be given either on an empty stomach or with food.
- SP should not be administered to women receiving cotrimoxazole prophylaxis due to a higher risk of adverse events.
- The WHO recommends daily oral supplementation of combined iron and folic acid supplements (i.e., 30–60 mg elemental iron and 400 µg [0.4 mg] folic acid), as early as possible in pregnancy to meet iron and folic acid requirements, and to prevent anemia in pregnancy. This dose may be used safely in conjunction with SP. Folic acid at a daily dose equal or above 5 mg should not be given together with SP, as this counteracts its efficacy as an antimalarial.

1 WHO. 2004. A Strategic Framework for Prevention and Control of Malaria during Pregnancy in the African Region. Brazzaville: WHO Regional Office for Africa. Available at [http://www.who.int/malaria/publications/atoz/afr\\_mal\\_04\\_01/en/](http://www.who.int/malaria/publications/atoz/afr_mal_04_01/en/).

2 WHO. 2015. World Malaria Report 2015. Geneva: World Health Organization. Available at <http://www.who.int/malaria/publications/world-malaria-report-2015/report/en/>.

3 WHO. 2013. WHO Policy Brief for the Implementation of Intermittent Preventive Treatment of Malaria in Pregnancy Using Sulfadoxine-Pyrimethamine (IPTp-SP). Geneva: World Health Organization. Available at: <http://www.who.int/malaria/publications/atoz/iptp-sp-updated-policy-brief-24jan2014.pdf?ua=1>.



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# Prevention of Malaria in Pregnancy: Promoting Intermittent Preventive Treatment in Pregnancy with Sulfadoxine-Pyrimethamine Early in the Second Trimester

“Toolkit to Improve Early and Sustained Intermittent  
Preventive Treatment in Pregnancy (IPTp) Uptake”

Module to Support the 2012 World Health Organization Policy Recommendations for IPTp-SP

# Objectives

At the end of this module, learners will be able to:

- Define the World Health Organization (WHO) policy recommendations for using intermittent preventive treatment during pregnancy with sulfadoxine-pyrimethamine (IPT<sub>p</sub>-SP).
- Describe determination of gestational age (GA) through history, lab tests, and physical exam.
- Use a job aid to assess early second-trimester GA and eligibility for IPT<sub>p</sub>-SP.
- Discuss implications of the policy change at facility and community levels.

# Why Is This Important?

- The WHO first recommended IPT<sub>p</sub>-SP in 2004.
  - Uptake of the first, second, and third dose in sub-Saharan Africa is 52%, 40%, and 17%, respectively.\*
  - Uptake is far from the universal coverage recommended by the Roll Back Malaria Partnership.
- There are negative consequences of malaria in pregnancy (MIP), including severe malaria, severe maternal anemia, preterm delivery, maternal death, and placental malaria.
- MIP is linked to intrauterine growth restriction, stillbirth, and delivery of low birthweight infants.†

\*WHO. 2015. *World Malaria Report 2015*. Geneva: World Health Organization.

†Aribodor DN, Nwaorgu OC, Eneanya CI, Okoli I, Pukkila-Worley R, Etaga HO. 2009. Association of low birth weight and placental malarial infection in Nigeria. *The Journal of Infection in Developing Countries*. 3(8):620–3.

# WHO 2012 Policy Recommendations for IPT<sub>p</sub>-SP

- IPT<sub>p</sub>-SP is recommended for all pregnant women in your setting at each antenatal care (ANC) contact until delivery.
- Start as early as possible in the second trimester (which begins at 13 weeks).
- Give doses at least one month apart.
- Last dose can be given up to time of delivery without safety concerns.

# What Changed in WHO IPTp-SP Guidelines from 2004–2012?

- 2004 WHO guidelines recommended giving the first dose of IPTp-SP at 16 weeks.
  - Country guidelines often set quickening as the benchmark.
- 2012 WHO guidelines recommend giving the first dose as early as possible in the second trimester, which is an opportunity to:
  - Orient ministries of health, training systems, providers, and community decision-makers to this change.
  - Increase protection of pregnant women, and protect them and their newborns from the consequences of MIP.



# WHO 2012 Policy Recommendations for IPT<sub>p</sub>-SP

- IPT<sub>p</sub>-SP should ideally be administered as directly observed therapy.
  - Three tablets of SP (each tablet containing 500 mg/25 mg SP), giving the total required dosage of 1,500 mg/75 mg SP
- SP can be given with or without food.
- SP should not be administered to women receiving cotrimoxazole prophylaxis due to a higher risk of adverse events.

# WHO 2012 Policy Recommendation for IPT<sub>p</sub>-SP (cont.)

- The WHO recommends administration of 0.4 mg folic acid daily.
- This dose may be safely used in conjunction with SP.
- Folic acid at a 5 mg or higher daily dose should not be given together with SP, as it counteracts SP's efficacy as an antimalarial.



# Side Effects of IPT<sub>p</sub>-SP

- SP is generally very well tolerated.
- Mild and transient side effects include nausea/vomiting, weakness, and dizziness.
- Most side effects are reported with the first dose of SP but tend to decrease with further doses.
- Side effects should be discussed openly and managed in the ANC clinic.



# Determination of GA for First SP Dose in Pregnancy: Taking Client History

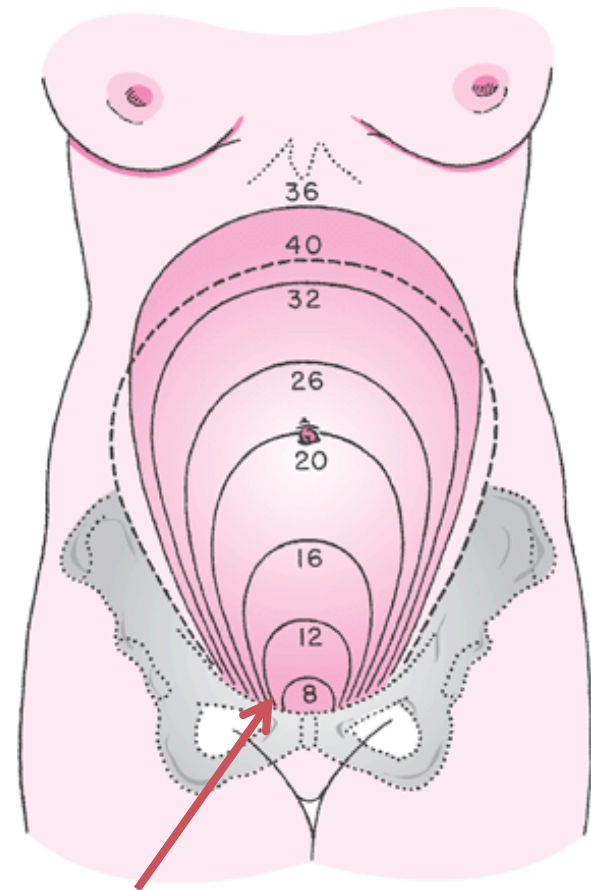
- Last normal menstrual period (LNMP)
- Quickening
  - In women who are pregnant for the first time, quickening around 18–20 weeks
  - In women who have been pregnant in the past, quickening around 16 weeks (or earlier)
- Potential challenges
  - Uncertainty of women about their LNMP
  - Breastfeeding and progestin-only contraception (can have anovulatory vaginal bleeding)
  - Variation in quickening among individuals



# Determination of GA for First SP Dose in Pregnancy: Physical Exam

- First trimester:
  - Uterus grows from size of lemon to orange.
  - Cannot be palpated abdominally.
- Second trimester (beginning at 13 weeks):
  - Uterus is the size of a grapefruit.
  - Can be palpated abdominally about 3 fingerbreadths above symphysis pubis.

Note: Pelvic (internal) exams are not necessary to determine uterine size in second trimester.



Symphysis pubis

# Determination of GA for First SP Dose in Pregnancy: Other Methods

- Pregnancy tests, if available/affordable, can confirm pregnancy.
- Symphysis pubis-fundal height (SFH) should be measured.
  - Generally only used after 20–24 weeks gestation.
- Ultrasound scan performed.
  - Can be superior to dating via LNMP or physical examination, depending on clinical circumstances, but dating precision decreases with GA, and ultrasound machines are not universally available.

# Determining Uterine Size and GA

- At the beginning of the second trimester (13 weeks), the top of the uterus is usually just above the mother's pubic bone (where her pubic hair begins).
- At about five months (20–22 weeks), the top of the uterus is usually right at the mother's bellybutton (umbilicus or navel).

## Determining Uterine Size and GA (cont.)

- To feel the uterus, make sure the mother has emptied her bladder.
- Have the mother lie on her back with some support under her head and ask her to bend her knees, keeping her feet flat on the bed.
- Explain to her what you are going to do (and why) before you examine her abdomen.
- Your touch should be firm but gentle.



## Determining Uterine Size and GA (cont.)

- Place fingers on the pubic bone and walk them up the center of the abdomen until you feel the top of her uterus (fundus) under the skin.
  - It will feel like a hard ball.
  - You can feel the top by curving your fingers gently into the abdomen.
- Uterus palpated 3 fingerbreadths above the pubic bone is compatible with pregnancy in the second trimester.

# Client Counseling about IPT<sub>p</sub>-SP

- Since women are used to starting SP later in pregnancy, service providers must counsel on the importance of dosing as early as possible in the second trimester because:
  - Malaria parasites can attack the placenta in the first trimester.
  - If parasites are not cleared with SP, they can affect placental development and fetal growth very early in pregnancy.

# Client Counseling about IPTp-SP (cont.)

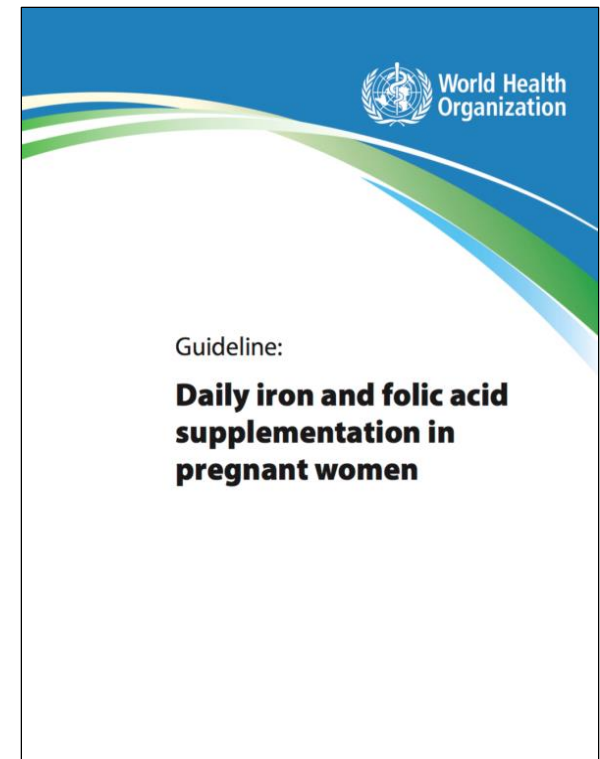
- Women's concerns must be addressed.
  - SP can be taken with food or on an empty stomach.
  - 0.4 mg folic acid can be taken with SP.
  - SP is not harmful to a woman or her baby.
  - SP can cause nausea, vomiting, or dizziness, but these are short-lived and subside with further doses.

# Client Counseling about IPT<sub>p</sub>-SP (cont.)

- Pregnant women can receive SP at all scheduled ANC contacts:
  - Starting at 13 weeks
  - As long as doses are at least one month apart
  - If the woman is not taking cotrimoxazole
- SP can be taken up to the time of delivery.
- Counsel pregnant women on importance of returning for repeat ANC contacts.

# Client Counseling about Iron and Folic Acid Supplementation during Pregnancy

- Iron and folic acid tablets should contacts to prevent and reduce anemia in pregnancy, which is associated with MIP.
  - Folic acid, combined with iron, can be taken at the same time as SP.
  - The WHO-recommended dose is 30–60 mg iron and 0.4 mg folic acid daily.
  - Pregnant women should not receive a standalone dose of folic acid exceeding 5 mg; consider reducing stores of 5 mg folic acid supplements.



# Client Counseling about MIP

- Don't forget to provide a long-lasting insecticide-treated net as early as possible in pregnancy, or let the client know where she can obtain one. Counsel on nightly use and explore barriers to use.
- Advise that the client return to facility if there are danger signs of malaria, including fever, headache, nausea/vomiting, and fatigue.
  - Must have diagnostic test for malaria immediately and be treated if positive.



# Provider Job Aid to Assist Integration of IPTp-SP into Every ANC Contact

Start

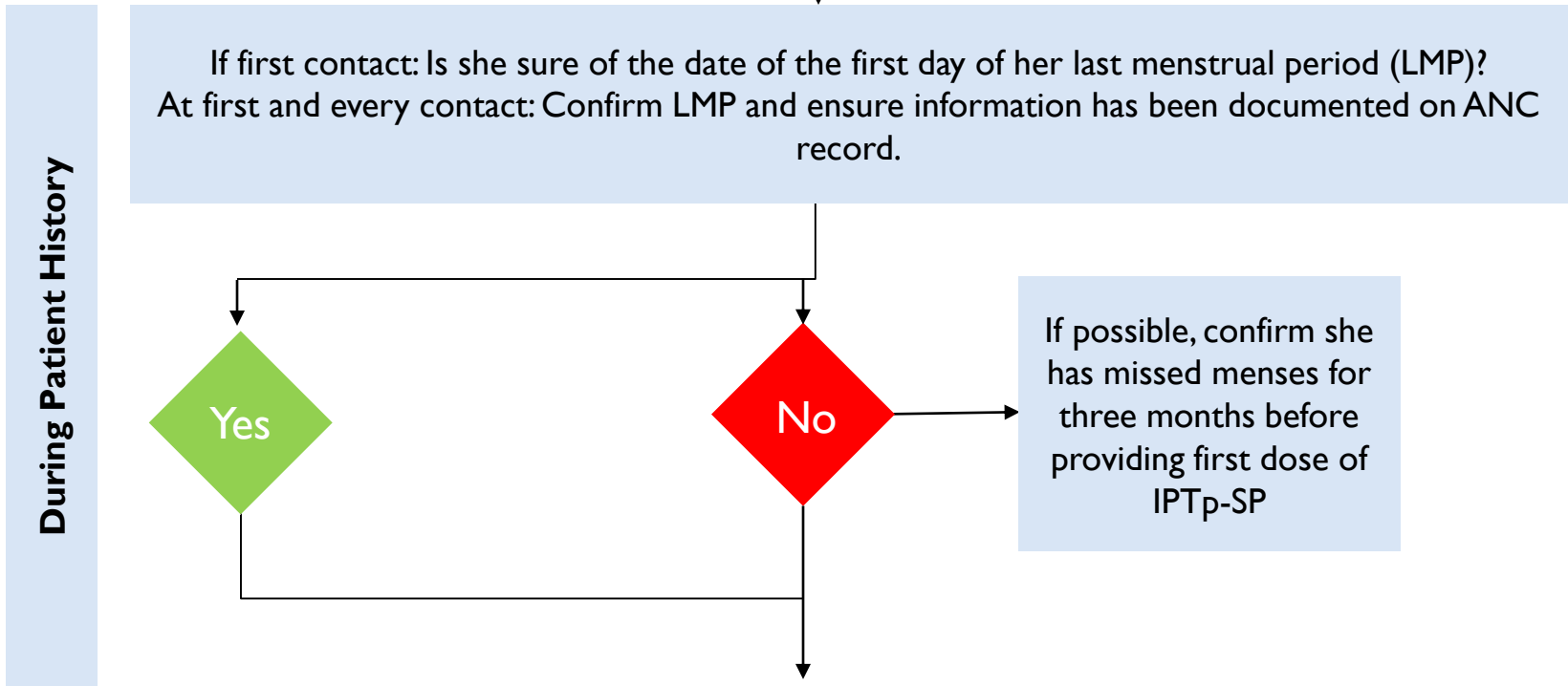
Provide SP at every ANC contact if at least 13 weeks pregnant, not taking cotrimoxazole, and at least one month since last dose.

**Does the woman need SP at this ANC contact?**



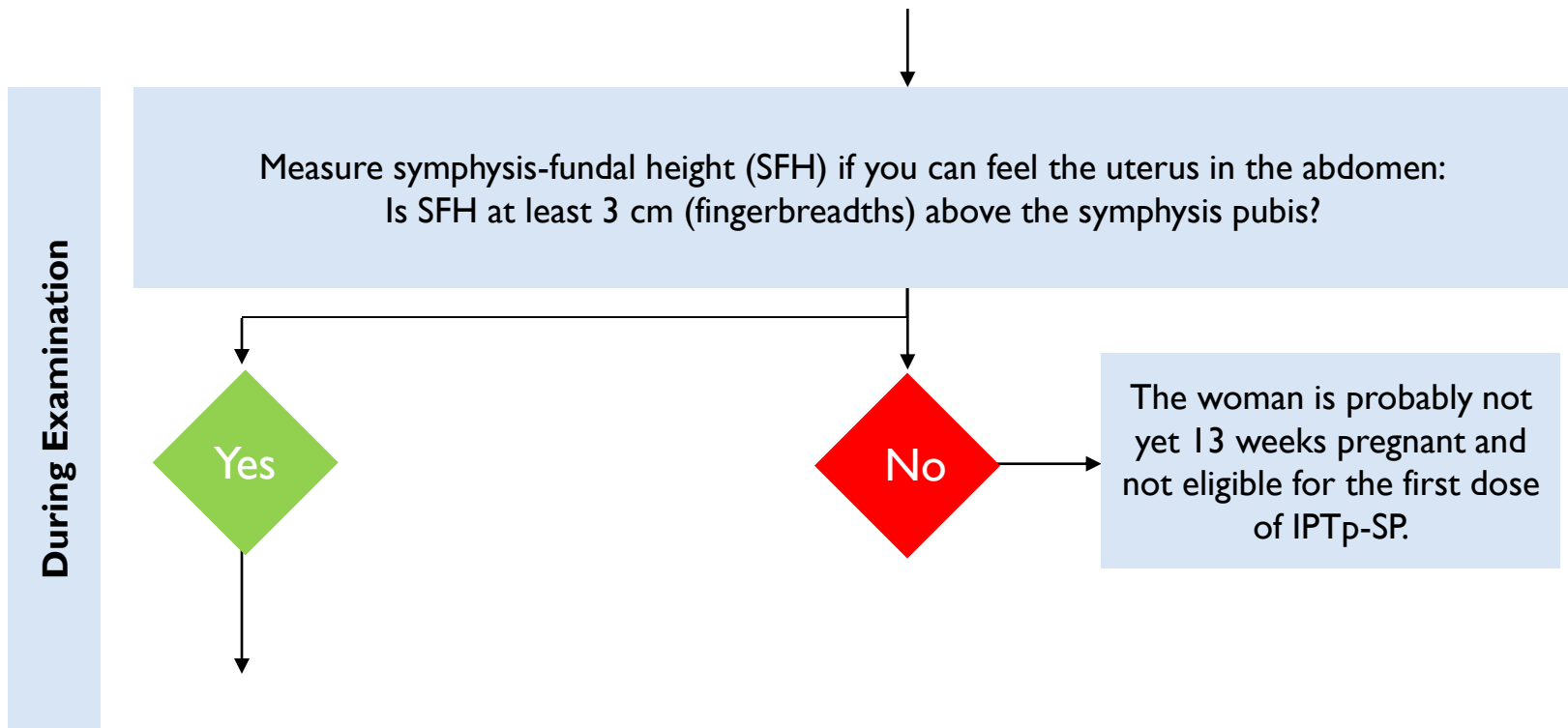
## Does the woman need SP at this ANC contact?

- Answer this question for every client at every ANC contact.
- Use information from history and physical exam to answer this question.

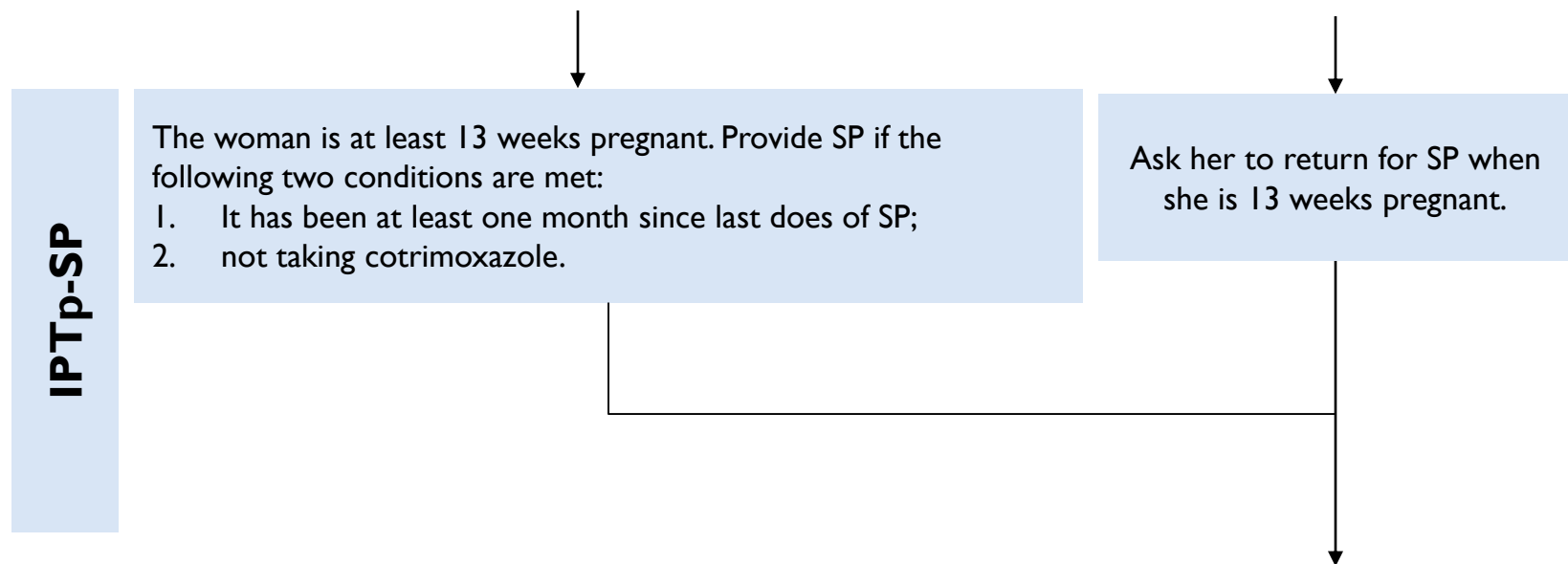


- Is client certain of the first day of her LNMP?
- If not, does she think she has missed three menstrual periods? This is good to confirm but not required.





- Can you feel the fundus in the abdomen? How would you describe how this feels?
- Is symphysis-fundal height at least 3 cm above the symphysis pubis? If not, she is probably less than 13 weeks pregnant and not eligible for IPTp-SP.



Have all three of the following criteria been met?

1. **At least 13 weeks pregnant:** Her fundus is palpable in the abdomen.
2. **At least one month since last dose of SP** (or it is her first dose in this pregnancy): Check her ANC card.
3. **Not taking cotrimoxazole:** Per country guidelines, women with HIV may be placed on daily cotrimoxazole prophylaxis. Check her ANC card.

- Provide recommend ANC interventions and counseling, including testing for HIV, and address concerns.
- Counsel on danger signs (bleeding, fever, abdominal pain, headache, etc.) and what to do if they occur.
- Review importance of follow-up contracts and make appointment for next contact.
- Make sure she is using a long-lasting insecticide-treated net.  
IF LMP is unsure and reliable ultrasound is available in your setting, obtain US scan prior to 24 weeks to determine gestational age.
- Document care on registers/cards and thank client.

**Use these counseling and intervention reminders.**

# Implementation of the WHO Policy: Questions to Consider

- Which components (below) of the WHO policy may present challenges to implementation and scale-up? How can they be resolved?
  - Provider barriers
  - Patient barriers
  - Logistics/procurement
  - Financing for additional doses of SP
- What strategies can be developed to increase access to SP without risking administration in the first trimester?
- What strategies can be developed to increase access to SP without risking inadvertent disclosure of HIV status (cotrimoxazole)?

# Implementation of the WHO Policy: Questions to Consider (cont.)

- Which cadres are competent to determine if GA is less than 13 weeks and IPT<sub>p</sub>-SP should not be administered?
- Which cadres should be authorized to administer IPT<sub>p</sub>-SP?
- Should some cadres only have limited authorization to administer IPT<sub>p</sub>-SP (e.g., when it is easy to ascertain that pregnancy is not in the first trimester)?
- What strategies can be used to ensure that all providers are informed of the new policy on IPT<sub>p</sub>-SP?

# Implementation of the WHO Policy: Questions to Consider (cont.)

- How can messages about ANC be integrated into information, education, and communication about early initiation of IPT<sub>p</sub>-SP?
- What role can community health workers, communities, and community leaders play in increasing uptake of IPT<sub>p</sub>-SP?
- What other policy implementation challenges exist? How can these be resolved?
- What facilitators can be leveraged to improve rollout of the IPT<sub>p</sub>-SP policy?

# Key Points

- IPT<sub>p</sub>-SP saves lives.
- Give SP as early as possible in the second trimester.
- Counsel about long-lasting insecticide-treated nets, iron and folic acid, and danger signs.



For more information, please visit  
**[www.mcspprogram.org](http://www.mcspprogram.org)**

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# Implementation Guide

## Toolkit to Improve Early and Sustained Uptake of Intermittent Treatment of Malaria in Pregnancy

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Venue:



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*MCSP is a global USAID initiative to introduce and support high-impact health interventions in 24 priority countries with the ultimate goal of ending preventable child and maternal deaths (EPCMD) within a generation. MCSP supports programming in maternal, newborn, and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment. MCSP will tackle these issues through approaches that also focus on household and community mobilization, gender integration, and eHealth, among others.*

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# Abbreviations

<i>ANC</i>	<i>antenatal care</i>
<i>GA</i>	<i>gestational age</i>
<i>IPTp-SP</i>	<i>intermittent preventive treatment in pregnancy with sulfadoxine-pyrimethamine</i>
<i>LLIN</i>	<i>long-lasting insecticidal net</i>
<i>MCSP</i>	<i>Maternal and Child Survival Program</i>
<i>MIP</i>	<i>malaria in pregnancy</i>
<i>MOH</i>	<i>Ministry of Health</i>
<i>QI</i>	<i>quality improvement</i>
<i>USAID</i>	<i>US Agency for International Development</i>
<i>WHO</i>	<i>World Health Organization</i>



# Background

*Malaria in pregnancy (MIP) is a leading indirect cause of maternal mortality as well as stillbirth and newborn mortality. MIP is responsible for 400,000 cases of severe maternal anemia, 10,000 maternal deaths, and 200,000 newborn deaths every year (Desai et al. 2007). Eight percent of stillbirths globally and 20% of stillbirths in sub-Saharan Africa are due to malaria infection during pregnancy (Lawn et al. 2016). Uptake of intermittent preventive treatment during pregnancy with sulfadoxine-pyrimethamine (IPTp-SP) is alarmingly low across sub-Saharan Africa, despite relatively high utilization of at least one antenatal care (ANC) contact, which often occurs late in pregnancy (Desai et al. 2007). The gap between ANC attendance in sub-Saharan Africa (71% of women attend at least once [Pell et al. 2013]), and the low proportion of eligible pregnant women receiving at least one dose of IPTp-SP (52%) and three doses of IPTp-SP (17%) indicates untapped potential to provide IPTp-SP during ANC (WHO 2015b). Recent estimates indicate that a full course of IPTp-SP decreases the incidence of low birthweight by 27%, severe maternal anemia by 40%, and newborn mortality by 38% (Roll Back Malaria Partnership 2014, Sicuri et al. 2010). It is also one of the few health interventions with peer-reviewed evidence showing reductions in newborn mortality and is highly cost-effective (WHO 2013).*

*The World Health Organization's (WHO) 2012 updated recommendations on IPTp-SP (2012) recommend administration of the first dose of IPTp-SP as early as possible in the second trimester (13 weeks) and at every scheduled ANC contact thereafter up to the time of delivery, with at least one month between doses. Increasing IPTp-SP uptake early in the second trimester and during scheduled ANC contacts, in combination with use of long-lasting insecticidal nets (LLIN) and effective case management, is essential to prevent the devastating consequences of MIP (WHO 2013). Initiation of IPTp-SP early in the second trimester requires both early enrollment into ANC and reliable estimation of gestational age (GA).*

*One key barrier to achieving complete IPTp-SP coverage in pregnancy, including timely initiation of IPTp early in the second trimester, is uncertainty on the part of ANC service providers about when women enter the second trimester. Providers can avoid missed opportunities to initiate IPTp-SP in the early second trimester by learning to take a targeted history and perform an abdominal exam to identify onset of the second trimester. However, knowledge and confidence gaps, as well as service delivery barriers, often impact service providers' consistent and correct calculation of GA (Gomez 2015).*

# Purpose and Components of the Toolkit

## Purpose

*This toolkit is designed as an aid for Ministry of Health (MOH) representatives, including the National Malaria Control Program, National Reproductive Health Program, malaria and maternal and newborn health program managers, frontline health workers, and other stakeholders to improve adherence to the WHO's 2012 IPTp-SP recommendations that target pregnant women and fetuses at risk for malaria infection. It is intended for use by managers and providers as part of broader ANC and MIP prevention and treatment program efforts. The toolkit can be flexibly integrated into established pre-service education, in-service training, and supervision, and as part of broader quality improvement (QI) and health system strengthening efforts focused on reducing the burden of MIP and improving the quality of ANC services.*

*The toolkit was developed by the USAID-supported Maternal and Child Survival Program (MCSP), in collaboration with the President's Malaria Initiative.*

## Components

*The toolkit includes:*

- 1. A technical summary to orient relevant divisions of the MOH as well as regional and district managers, stakeholders, and other partners to the WHO 2012 IPTp-SP recommendations and common barriers to adherence with these recommendations*
- 2. A slideshow presentation to orient managers and service providers to the updated 2012 WHO IPTp-SP recommendations, and the importance and challenges of accurate assessment of early second-trimester GA for correct initiation of IPTp-SP*
- 3. An in-service training module (four-hour session) to build ANC service providers' knowledge and skills for implementing the WHO 2012 IPTp-SP recommendations*
- 4. A job aid to help ANC service providers adhere to WHO 2012 IPTp-SP recommendations, including accurate assessment of early second-trimester GA for correct initiation of IPTp-SP as part of routine ANC service delivery*

## ANC as the Platform for IPTp-SP

*IPTp-SP, use of LLINs, and malaria case management are essential components of high-quality ANC services in malaria-endemic areas. To achieve high coverage and be sustainable, MIP prevention and control efforts must be successfully integrated into broader ANC platforms. This toolkit is intended to complement existing ANC program efforts focused on ensuring delivery of a comprehensive package of ANC services.*

*A full explanation of ANC provisions is beyond the scope of this guide. Further information is available in the WHO's 2016 recommendations on ANC for a positive pregnancy experience (WHO 2016), the WHO's integrated management of pregnancy and childbirth manual (WHO 2015a), and the MIP Learning Resource Package (Jhpiego 2017). Prevention and Control of Malaria in Pregnancy, 3<sup>rd</sup> Edition.*

*Table 1 highlights the current essential ANC interventions recommended by the WHO, including IPTp-SP, LLIN use, and case management of MIP.*

**Table 1. Essential ANC interventions recommended by WHO (WHO 2015a, Campbell et al. 2006)**

**Cross-Cutting:**

- Respectful care
- Assessment of relevant obstetric, medical, and social history
- One ultrasound scan before 24 weeks gestation (early ultrasound) is recommended to estimate gestational age, improve detection of fetal anomalies and multiple pregnancies, reduce induction of labor for post-term pregnancy, and improve a woman's pregnancy experience
- Gestational age assessment at every contact
- Assessment of problems at every contact
- ANC intervention content tailored to women's needs, gestational age, and local context

**Health Promotion and Prevention:**

- Management of common physiologic problems
- Promotion of safe and healthy practices, tobacco/alcohol avoidance
- Counseling on birth preparedness and complication readiness; danger sign recognition; skilled provider for ANC, birth, and postnatal care; and emergency referral for newborns with problems
- Nutritional counseling; provision of iron and 0.4 mg folic acid daily; (5 mg folic acid dosage is contraindicated with SP treatment)
- Anticipatory counseling for newborn thermal regulation and breastfeeding, and birth spacing (documented method choice and linkages to delivery and postnatal provider)
- Malaria prevention: IPTp (directly observed treatment), and provision of and counseling about LLINs (exploration of barriers to use)
- Anti-helminthics
- Blood pressure screening
- Vaccinations (tetanus; influenza in settings with seasonal influenza vaccination program)
- Screening for anemia, asymptomatic bacteriuria, Rhesus factor, HIV, TB, syphilis, and other sexually transmitted infections
- Prevention of pre-eclampsia/eclampsia for women at risk: low-dose aspirin and calcium supplementation (if low calcium intake area)

**Early Identification and Management of Problems Every Encounter:**

- Urinary tract infection/pyelonephritis
- Intimate partner violence
- Acute malaria
- HIV, syphilis, or TB
- Anemia
- Elevated blood pressure, pre-eclampsia (including danger signs, urine protein, and other laboratory abnormalities when feasible)
- Threatened preterm birth
- Gestational diabetes
- Malpresentation or fetal heart rate abnormalities
- Abnormal fetal growth
- Inadequate maternal weight gain

# Ensuring Availability of Commodities for Prevention of MIP

*The WHO-recommended three-pronged approach to prevention and control of MIP includes use of LLINs, which pregnant women should receive at the first ANC contact; IPTp-SP as early as possible in the second trimester and at every scheduled ANC contact thereafter if at least one month since last dose; and prompt case management of confirmed malaria illness with approved medications per global and local guidelines. It is important for the health system to ensure availability of all key ANC commodities at every point of contact, including malaria prevention and treatment commodities: LLINs, SP, rapid diagnostic test kits for malaria, and approved antimalarials. Malaria, maternal health, and other program managers and stakeholders must collaborate to forecast, monitor, and ensure availability of ANC commodities. Useful resources for promoting availability of key ANC commodities are found in Appendix A.*

## Orientation of Stakeholders, Partners, and Providers to the Toolkit

*The following cascade of events is suggested to ensure that all stakeholders use a consistent approach to increase utilization of IPTp-SP as early as possible in the second trimester of pregnancy:*

1. **MOH level:** Hold orientation for heads of the divisions of maternal, newborn, and reproductive health; the National Malaria Control Program; infectious diseases; pre-service and in-service education institutions; supply chain/commodities; QI; monitoring and evaluation; donors; and other technical partners and stakeholders. This can occur using the technical summary and slideshow presentation in a two-hour meeting.
2. **Regional and district levels:** Hold orientation for regional and district health managers, malaria and reproductive health representatives, heads of hospitals and facilities offering maternity services, QI teams, health management information system/data officers, and other technical partners. Again, this can occur using the technical summary and slideshow presentation in a two-hour meeting. More time may then be needed for regions and districts to plan the rollout of in-service training and supportive supervision to all health workers providing ANC services as described below.
3. **Health worker level:** Roll out in-service training.
  - a. Existing trainers updated using the four-hour session on “Determination of Gestational Age for Correct Administration of Intermittent Preventive Treatment of Malaria in Pregnancy with Sulfadoxine-Pyrimethamine (IPTp-SP).”
  - b. Cascade in-service training by updated trainers implemented, to provide the same four-hour sessions to approximately 20 service providers/session until all ANC service providers are trained.
  - c. Follow up with trained service providers through the existing supportive supervision system using the skills checklist, and ensuring adequate commodities and correct data collection on indicators at each service delivery level.



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# Appendix A: Supply Chain Management Resources

## I. USAID Deliver Project

### **The Logistics Handbook**

*This handbook provides an introduction to logistics and practical guidance for managing aspects of a public health supply chain. It is available in multiple languages. It was updated in 2011.*

[http://deliver.jsi.com/dlvr\\_content/resources/allpubs/guidelines/LogiHand.pdf](http://deliver.jsi.com/dlvr_content/resources/allpubs/guidelines/LogiHand.pdf).

### **Supply Chain Management Training Courses: Distance Learning**

*This is a series of free, computer-based courses in supply chain management. Topics include logistics management information systems, inventory systems, and storage and quantification of health commodities. These courses are continuously updated.*

[http://deliver.jsi.com/dhome/resources/searchresources?p\\_search\\_tok=supply+chain+management+training+course&p\\_search\\_type=SITE&btnG=search](http://deliver.jsi.com/dhome/resources/searchresources?p_search_tok=supply+chain+management+training+course&p_search_type=SITE&btnG=search).

### **Supply Chain Tools: Tools for Improvement of Public Health Supply Chains**

*This is a series of tools, guides, and briefs developed on topics critical to the improvement of public health supply chains. It was developed in 2013.*

[http://scms.pfscm.org/scms/docs/papers/DELIVER\\_ToolsNewsAugust2013.pdf](http://scms.pfscm.org/scms/docs/papers/DELIVER_ToolsNewsAugust2013.pdf).

## 2. USAID Systems for Improved Access to Pharmaceuticals and Services Project

### **Pharmaceuticals Tools and Guidance**

*This is a suite of electronic tools that can help pharmaceutical managers develop sound policies and monitor supplies and services. It includes specific tools on medicine dispensing and treatment adherence tracking, medication registration, forecasting and quantification, and inventory management. It is continuously updated.*

<http://siapsprogram.org/tools-and-guidance/>.

## 3. Partnership for Supply Chain Management

### **Pipeline**

*These desktop software tools help program managers plan optimal procurement and delivery schedules for health commodities, and monitor orders throughout the supply chain. They are continuously updated.*

[http://www.scms.pfscm.org/scms/communitycenter/tools#supply\\_chain\\_tools](http://www.scms.pfscm.org/scms/communitycenter/tools#supply_chain_tools).

### **Partnership for Supply Chain Management Resources**

*The Partnership for Supply Chain Management organizes a resource portal for supply chain community members to share information and resources, and collaborate on solving supply chain issues. The site is continuously updated.*

updated [http://www.scms.pfscm.org/scms/communitycenter/tools#supply\\_chain\\_tools](http://www.scms.pfscm.org/scms/communitycenter/tools#supply_chain_tools).



# Session Plan: Determination of Gestational Age for Correct Administration of Intermittent Preventive Treatment of Malaria in Pregnancy with Sulfadoxine-Pyrimethamine (IPT<sub>p</sub>-SP)

Date:

Venue:



Published by:  
Jhpiego Corporation  
Brown's Wharf  
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MCSP is a global USAID initiative to introduce and support high-impact health interventions in 24 priority countries with the ultimate goal of ending preventable child and maternal deaths (EPCMD) within a generation. MCSP supports programming in maternal, newborn, and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment. MCSP will tackle these issues through approaches that also focus on household and community mobilization, gender integration, and eHealth, among others.

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# Learning Objectives

By the end of the session, learners will be able to do the following:

1. Describe the key elements of the 2012 World Health Organization (WHO) policy on use of intermittent preventive treatment of malaria in pregnancy with sulfadoxine-pyrimethamine (IPTp-SP).
2. Demonstrate correct assessment of gestational age (GA) in the early second trimester (on anatomic model and/or during client contact) through a combination of history and physical exam using a skills checklist.
3. Use job aid and pregnancy wheel to demonstrate correct administration of IPTp-SP as part of routine antenatal care (ANC) care, including correct timing of initiation of IPTp-SP based on accurate measurement of early second-trimester GA in pregnancy.
4. Understand local barriers and define action plan for improving implementation of WHO 2012 IPTp-SP guidelines in learner's work site (action plan).

# Session Plan (4 Hours)

Time	Topic, Methods, and Activities	Facilitator	Resources
15 minutes	<p>Welcome and introductions</p> <ul style="list-style-type: none"> <li>Facilitator introduces her/himself. Learners introduce themselves and write one expectation of the session on a flip chart.</li> <li>Facilitator reviews session objectives and learning materials.</li> </ul>		Handouts with session objectives, skills checklist, and gestational age (GA) job aid (ideally, job aid should be laminated or placed in plastic sleeves)
15 minutes	Complete written precourse knowledge assessment (KA). Do a “practice” true/false question to ensure everyone understands the format. Grade KAs in group.		Copies of KA, answer sheets, and pencils
45 minutes	<ul style="list-style-type: none"> <li>Give interactive presentation and have discussion on use of IPTp-SP per 2012 WHO policy update, emphasizing: <ul style="list-style-type: none"> <li>Differences from previous guidelines</li> <li>Encouraging women to attend antenatal care (ANC) as soon as they think they may be pregnant and continue ANC contacts per local guidelines</li> <li>Implications for maintaining adequate stocks of SP and recordkeeping (clinical cards, registers)</li> <li>Counseling clients about continuing use of long-lasting insecticide-treated nets and IPTp-SP, individually and/or in group setting</li> </ul> </li> </ul>		<p>Laptop, LCD projector, slideshow presentation (or main points on flip chart pages), and flip chart page for “parking lot”</p> <p>See Appendix A for group activities #1, #2, and #4 illustrating challenges with SP provision.</p>
15 minutes	Tea break		See Appendix A for group activity #3 (SP shuffle).
30 minutes	Review job aid to determine gestational age in early second trimester, discussing each stem and branch.		Job aid handout
60 minutes (adjust time based on number of participants and models)	<p>Review skills checklist as a group</p> <p>Demonstration and practice of assessment of GA in the second trimester using pregnancy model and job aid (demonstration by facilitator, each learner then practices)</p>		<p>Pregnancy model configured for second trimester and skills checklist</p> <p>See Appendix A for group activity #5, case studies.</p>
15 minutes	Complete written postcourse KA. Do a “practice” multiple-choice question to ensure everyone understands the format. Grade KAs in group.		KAs, answer sheets, and pencils
30 minutes	Review objectives and expectations. Clarify learners’ questions placed in “parking lot.” Discuss key local barriers to implementation and formulate action plans for implementation of 2012 WHO guidelines using toolkit resources. Wrap up and review next steps.		“Parking lot” page Action plan template for each facility (p. 4)
15 minutes	Complete course evaluation and closing.		Evaluation forms (p. 11)

# Action Plan

District: \_\_\_\_\_ Facility: \_\_\_\_\_

Date of action plan: \_\_\_\_\_ Developed by: \_\_\_\_\_

Key Local Barrier	Root Causes	Solutions	Resources Needed	Person(s) Responsible	Date to Be Completed	Comments
1.						
2.						
3.						
4.						
5.						

# Gestational Age Assessment: Precourse Knowledge Assessment

Please circle “T” if question is true or “F” if question is false.

Learner number: \_\_\_\_\_ Cadre and position: \_\_\_\_\_

• Negative consequences of malaria in pregnancy for the mother include severe anemia.	T	F
• Negative consequences of malaria in pregnancy for the newborn include low birthweight.	T	F
• The 2012 WHO guidelines on use of IPTp-SP recommend giving the first dose of SP as early as possible in the second trimester (i.e., around 13 weeks).	T	F
• Quickening must occur before giving the first dose of IPTp-SP.	T	F
• Sulfadoxine-pyrimethamine is safe for the mother and fetus in the second trimester of pregnancy.	T	F
• IPTp-SP should not be given after 36 weeks of pregnancy (i.e., in the last month of pregnancy).	T	F
• IPTp-SP should only be given with food.	T	F
• Women taking cotrimoxazole prophylaxis can also receive IPTp-SP.	T	F
• IPTp-SP can safely be given with iron and 0.4 mg folic acid.	T	F
• At 13 weeks gestation, the uterus can be palpated at about 3 fingerbreadths above the symphysis pubis.	T	F



# Gestational Age Assessment: Precourse Knowledge Assessment—Answer Key

• Negative consequences of malaria in pregnancy for the mother include severe anemia.	<b>T</b>	<b>F</b>
• Negative consequences of malaria in pregnancy for the newborn include low birthweight.	<b>T</b>	<b>F</b>
• The 2012 WHO guidelines on use of IPTp-SP recommend giving the first dose of SP as early as possible in the second trimester (i.e., around 13 weeks).	<b>T</b>	<b>F</b>
• Quickening must occur before giving the first dose of IPTp-SP.	<b>T</b>	<b>F</b>
• Sulfadoxine-pyrimethamine is safe for the mother and fetus in the second trimester of pregnancy.	<b>T</b>	<b>F</b>
• IPTp-SP should not be given after 36 weeks of pregnancy (i.e., in the last month of pregnancy).	<b>T</b>	<b>F</b>
• IPTp-SP should only be given with food.	<b>T</b>	<b>F</b>
• Women taking cotrimoxazole prophylaxis can also receive IPTp-SP.	<b>T</b>	<b>F</b>
• IPTp-SP can safely be given with iron and 0.4 mg folic acid.	<b>T</b>	<b>F</b>
• At 13 weeks gestation, the uterus can be palpated at about 3 fingerbreadths above the symphysis pubis.	<b>T</b>	<b>F</b>

# Gestational Age Assessment: Postcourse Knowledge Assessment

Learner number: \_\_\_\_\_ Cadre and position: \_\_\_\_\_

Please circle **one** correct answer to each question below.

1. Providing IPTp-SP at 13 weeks gestation is important because:
  - a. Women may not return for more ANC contacts.
  - b. It can prevent parasites from invading the placenta very early in pregnancy.
  - c. Women feel fewer side effects early in pregnancy.
2. Which dose of folic acid can be given with IPTp-SP?
  - a. 5 mg
  - b. 0.4 mg
  - c. Folic acid should not be given with IPTp-SP.
3. When counseling women about when to return to the ANC clinic:
  - a. Tell them to come only if they have danger signs.
  - b. Ask them to return based on your country's guidelines for ANC contacts and provide IPTp-SP at every scheduled contact if at least one month has elapsed since the last dose.
  - c. Tell them they will not receive more IPTp-SP after this contact.
4. Malaria parasites attack the placenta:
  - a. Only in the third trimester
  - b. Only if the woman has fever and a positive malaria rapid diagnostic test
  - c. As early as the first trimester, even if a woman has no symptoms of malaria
5. IPTp-SP can be given:
  - a. Up to the time of delivery
  - b. Only until the eighth month of pregnancy
  - c. Anytime the woman comes for an ANC contact, no matter when her last contact was
6. Care that should be provided at each ANC contact includes:
  - a. Take blood pressure, measure uterine size, listen for fetal heart sounds, and determine eligibility for IPTp-SP.
  - b. Take blood pressure and listen for fetal heart sounds.
  - c. Determine eligibility for IPTp-SP.

7. Pregnant women should use insecticide-treated nets:
  - a. Only in the first trimester
  - b. Only if they don't take IPTp-SP
  - c. Throughout pregnancy and the postpartum period
8. Women receiving cotrimoxazole prophylaxis:
  - a. Should receive IPTp-SP at every ANC contact as long as it has been one month since the last dose.
  - b. Don't need to use insecticide-treated nets.
  - c. Should not receive IPTp-SP during pregnancy.
9. The uterus at 13 weeks of pregnancy:
  - a. Is about the size of a small lemon and cannot be palpated above the symphysis pubis.
  - b. Is midway between the symphysis pubis and the umbilicus.
  - c. Can be palpated about 3 cm, or 3 fingerbreadths, above the symphysis pubis.
10. The most important element(s) to consider when determining gestational age include:
  - a. Visualization of the cervix
  - b. Asking the woman if she "feels" pregnant
  - c. Asking the woman the first day of her last menstrual period and measuring symphysis-fundal height

# Gestational Age Assessment: Postcourse Knowledge Assessment—Answer Key

Please circle **one** correct answer to each question below.

1. Providing IPTp-SP at 13 weeks gestation is important because:
  - a. Women may not return for more ANC contacts.
  - b. It can prevent parasites from invading the placenta very early in pregnancy.**
  - c. Women feel fewer side effects early in pregnancy.
2. Which dose of folic acid can be given with IPTp-SP?
  - a. 5 mg
  - b. 0.4 mg**
  - c. Folic acid should not be given with IPTp-SP.
3. When counseling women about when to return to the ANC clinic:
  - a. Tell them to come only if they have danger signs.
  - b. Ask them to return based on your country's guidelines for ANC contacts and provide IPTp-SP at every scheduled contact if at least one month has elapsed since the last dose.**
  - c. Tell them they will not receive more IPTp-SP after this contact.
4. Malaria parasites attack the placenta:
  - a. Only in the third trimester
  - b. Only if the woman has fever and a positive malaria rapid diagnostic test
  - c. As early as the first trimester**
5. IPTp-SP can be given:
  - a. Up to the time of delivery**
  - b. Only until the eighth month of pregnancy
  - c. Anytime the woman comes for an ANC contact, no matter when her last contact was
6. Care that should be provided at each ANC contact includes:
  - a. Take blood pressure, measure uterine size, listen for fetal heart sounds, and determine eligibility for IPTp-SP.**
  - b. Take blood pressure and listen for fetal heart sounds.
  - c. Determine eligibility for IPTp-SP.

7. Pregnant women should use insecticide-treated nets:
  - a. Only in the first trimester
  - b. Only if they don't take IPTp-SP
  - c. Throughout pregnancy and the postpartum period**
8. Women receiving cotrimoxazole prophylaxis:
  - a. Should receive IPTp-SP at every ANC contact as long as it has been one month since the last dose.
  - b. Don't need to use insecticide-treated nets.
  - c. Should not receive IPTp-SP during pregnancy.**
9. The uterus at 13 weeks of pregnancy:
  - a. Is about the size of a small lemon and cannot be palpated above the symphysis pubis.
  - b. Is midway between the symphysis pubis and the umbilicus.
  - c. Can be palpated about 3 cm, or 3 fingerbreadths, above the symphysis pubis.**
10. The MOST important element(s) to consider when determining gestational age includes:
  - a. Visualization of the cervix
  - b. Asking the woman if she "feels" pregnant
  - c. Asking the woman the first day of her last menstrual period and measuring symphysis-fundal height**

# Determination of Gestational Age Workshop Evaluation

Please indicate your opinion of the course components using the following rating scale:  
5 – Strongly agree, 4 – Agree, 3 – No opinion, 2 – Disagree, 1 – Strongly disagree

Course Component		Rating
1.	The length of the workshop was adequate.	
2.	I understand the updated 2012 WHO guidelines on initiation of IPTp-SP early in the second trimester.	
3.	The job aid will help me to remember to give IPTp-SP and long-lasting insecticide-treated nets to all eligible pregnant women.	
4.	The demonstration and practice on the pregnancy model using the checklist were helpful to improve my skills for diagnosis of the early second trimester.	
5.	I am confident that I can accurately diagnose a pregnancy at 13 weeks gestation.	
6.	Formulation of the action plan for my facility will help increase the number of eligible pregnant women receiving IPTp-SP and long-lasting insecticide-treated nets.	
7.	I achieved my expectation(s) for the workshop.	
8.	I achieved the workshop objectives.	

## Additional Comments

1. What topics (if any) should be added to improve the workshop, and why?
2. What topics (if any) should be deleted to improve the workshop, and why?
3. General comments:

# Appendix A: Sample Group Activities

To add more interactive learning to a session, facilitators can consider these or other group activities, which are designed to reinforce and spur discussion on key content in the toolkit.

1. Don't miss the chance!
  - a. After pre-test, everyone stands up (either at their places or another area of the room).
  - b. Explain that we all represent the pregnant women of X country.
  - c. Ask participants to estimate how many of us will never go to antenatal care (based on context). Ask X number of participants to sit down based on approximate proportion.
  - d. Of the remaining, have relevant proportion of participants sit down who will not enter care until third trimester.

When group decides on how many enter care at beginning of second trimester, compare size of that small group to original large group and talk about importance of seizing opportunity to provide these clients with first dose of IPTp-SP at the right time.

2. What is standing in her way?
  - a. When initiating discussion of barriers, have the small handful of participants who were early second trimester stand up and sip from a bottle of water to simulate the first dose of IPTp-SP.
  - b. Have participants talk about all the things that stand in the way of these clients getting to the other side of the room (people can stand up to represent barriers, such as stock-outs, provider knowledge gaps, long queues, client fears of taking medication in pregnancy, etc.).
  - c. As you discuss possible strategies to removing barriers, "barrier participants" can sit back down and pregnant women can get closer to that first dose until they have arrived at the other side of the room.
3. The "SP Shuffle"
  - a. For use as an energizer during tea breaks or other times: If you have Internet access, please use a search engine to find the video of a dance called "The Cupid Shuffle" (from the 2007 album *Time for a Change* by the artist Cupid). You can devise your own song, but as an example, you could use:
    - b. 13, 13, 13, 13!
    - c. Weeks, weeks, weeks, weeks!
    - d. SP! SP! SP! SP!
    - e. Every month, every month, every month, every month!
4. Folic Acid Show-and-Tell
  - a. Staff member with adequate authorization to do so obtains representative samples of what is available in pharmacy or clinic for iron/folic acid supplementation.
  - b. Discuss available options and whether they are appropriate in the context of IPTp-SP delivery.
  - c. Emphasize avoiding the 5 mg dose of folic acid and rationale.

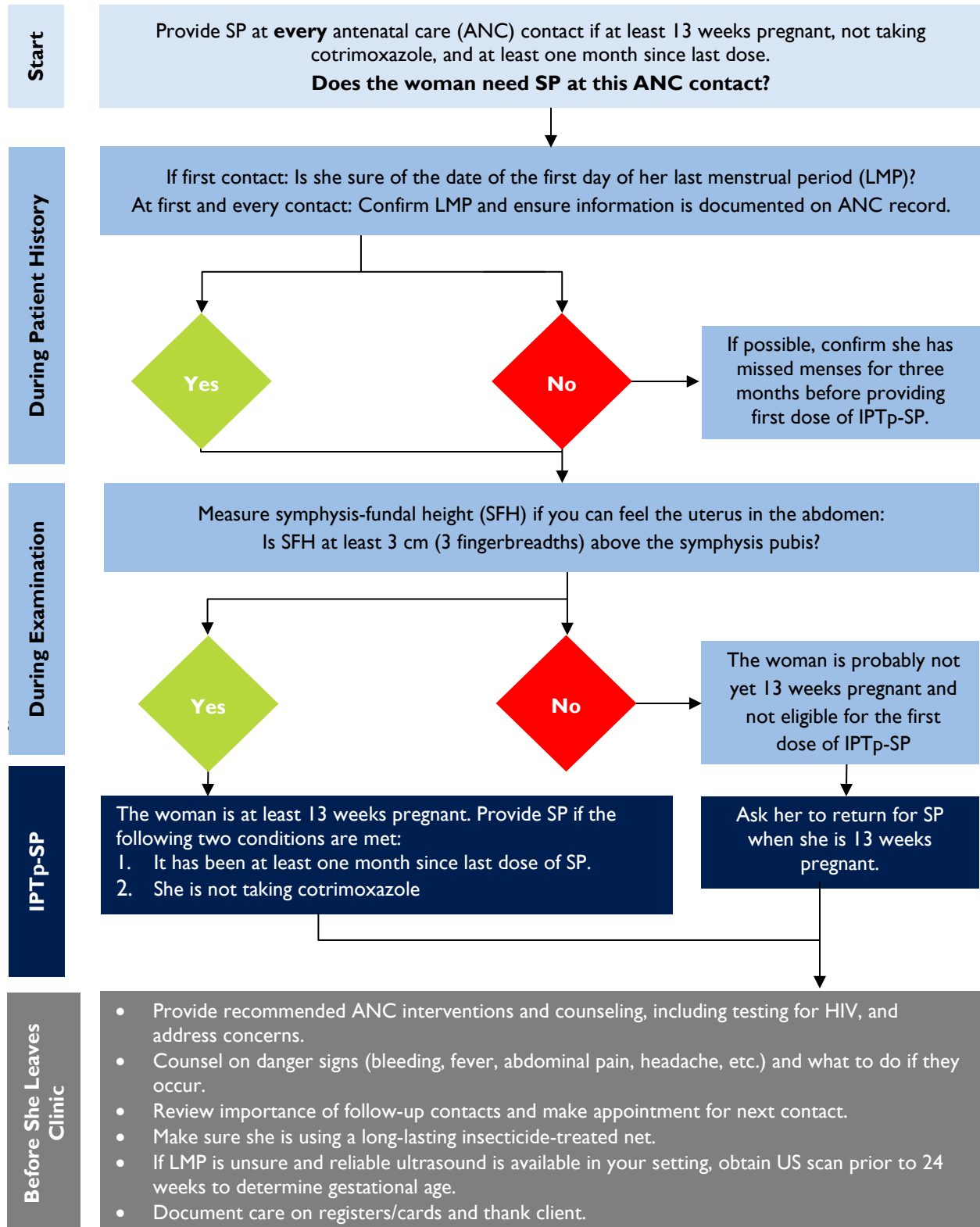
## 5. Case Scenarios

Include a focus on whether to give or not to give SP, plus recommended counseling messages and other interventions. Can be revised based on common local scenarios.

- a. Case 1: Unknown last menstrual period, can't palpate uterus in the abdomen. What happens at this contact?
- b. Case 2: First dose of SP received at 20 weeks, returns for second contact at 39 weeks to antenatal care and feels some cramping that may or may not be early labor. What happens at this contact?
- c. Case 3: Presents for first antenatal care contact at about 18 weeks. Hasn't yet had HIV test, but knows partner is living with HIV. She is not taking any medications. What happens at this contact?
- d. Case 4: Woman comes in at 13 weeks and gets all recommended antenatal care/malaria in pregnancy interventions, including SP; returns two weeks later for problem contact (headache). What happens at this contact?
- e. Case 5: Same woman as Case 4: Returns at 17 weeks. You recommend SP, but she is afraid to take it in case her headache was due to SP. How do you counsel her?



## Prevention of Malaria during Pregnancy: Administer Intermittent Preventive Treatment in Pregnancy Using Sulfadoxine-Pyrimethamine (IPTp-SP) Starting at 13 Weeks





# Checklist for Assessment of Gestational Age in the Second Trimester during Antenatal Care

(To be used by the learner for practice and by the facilitator at the end of the course)

Place a ✓ in case box if step/task is performed **satisfactorily**, an **X** if it is **not** performed **satisfactorily**, or **N/O** if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines.

**Unsatisfactory:** Does not perform the step or task according to the standard procedure or guidelines.

**Not Observed:** Step or task not performed by participant during evaluation by facilitator.

Learner: \_\_\_\_\_ Date observed: \_\_\_\_\_

Checklist for Assessment of Gestational Age in the Second Trimester during Antenatal Care (Many of the following steps/tasks can be performed simultaneously.)					
Step/Task	Cases				
<b>Preparation</b>					
1. Prepare necessary equipment for antenatal care contact: weighing scale, blood pressure apparatus, stethoscope, thermometer, measuring tape, iron/folic acid tablets, tetanus toxoid/syringe, sulfadoxine-pyrimethamine, clean cup and drinking water, exam table/step stool, urine protein test, hemoglobin test, syphilis test, HIV rapid diagnostic test, malaria rapid diagnostic test, soap/water/towel, exam gloves, sharps box, waste bucket, ANC record, and clinic card.					
2. Greet client and companion of woman's choice (if she so desires) respectfully and with kindness. Offer a seat. Tell her/them what you will do and answer client's questions.					
3. Provide continual emotional support and reassurance, as feasible.					
<b>Skill/Activity Performed Satisfactorily</b>					
<b>History</b>					
1. Do rapid initial assessment: Ask how she is feeling and respond immediately to any urgent problems.					
2. Ask her name, age, number of previous pregnancies, dates of deliveries, complications/outcomes, and number of living children.					
3. Ask if she is currently breastfeeding.					

Checklist for Assessment of Gestational Age in the Second Trimester during Antenatal Care (Many of the following steps/tasks can be performed simultaneously.)					
Step/Task	Cases				
4. Ask if she has allergies to any medications or foods.					
5. Ask about her menstrual periods: how often they occur, if they are regular, how long they last, and amount of flow.					
6. Ask about contraceptive history, including use of the lactational amenorrhea method or other modern methods, and when they were started and discontinued.					
7. Ask the date of the <b>first day</b> of her last normal menstrual period and about any bleeding since that time.					
8. Ask if she has had problems in this pregnancy, such as bleeding or cramping.					
9. Ask if she has had a pregnancy test in this pregnancy, the date, and the results.					
10. Ask if she has had an ultrasound exam in this pregnancy, the date, and the results.					
11. Ask if she has noted fetal movement and, if so, the date it began.					
12. Calculate gestational age and estimated date of delivery. (Use a pregnancy wheel, or take the date of the <b>first day</b> of the last normal menstrual period, subtract 3 months, and add 7 days [e.g. first day of last normal menstrual period is March 1, 2015; estimated date of delivery is December 8, 2015]).					
13. Ask about tetanus immunization status.					
14. Ask about medications, supplements and herbal products, and alcohol and tobacco use.					
15. Ask about general health problems and whether she has been or is being treated for hypertension, heart disease, anemia, malaria, diabetes, HIV, TB, etc.					
16. Ask about use of sulfadoxine-pyrimethamine in this pregnancy.					
17. Ask about use of a long-lasting insecticide-treated net.					
18. Ask what questions she has and provide clear answers.					
19. Record information on antenatal card and/or clinic record.					
<b>Skill/Activity Performed Satisfactorily</b>					
<b>Physical Exam</b>					
1. Wash hands and dry.					
2. Ask if client needs to empty her bladder and save urine for testing if necessary.					
3. Take vital signs if not already done (blood pressure, pulse, and temperature, if indicated).					
4. Check conjunctiva and palms for pallor. Check face and hands for swelling.					
5. Check breasts and nipples for lesions.					

<b>Checklist for Assessment of Gestational Age in the Second Trimester during Antenatal Care (Many of the following steps/tasks can be performed simultaneously.)</b>					
<b>Step/Task</b>	<b>Cases</b>				
6. Examine abdomen and fundal height in relation to symphysis pubis and umbilicus (13–20 weeks). If uterus is palpated at least 3 fingerbreadths above the symphysis, the pregnancy is very likely in the second trimester.					
7. If uterus is at the umbilicus or above, listen for fetal heart with fetoscope.					
8. If first antenatal care contact or if woman states she is having problems, put exam gloves on both hands and examine external genitalia for bleeding, discharge, and lesions.					
9. Remove gloves, wash hands with soap and water, and dry hands.					
10. Inform woman of results of exam. Record information on antenatal care card and/or clinic record.					
<b>Skill/Activity Performed Satisfactorily</b>					
<b>Screening Tests/Treatments</b>					
1. Wash and dry hands. Put on exam gloves. Inform woman of tests that will be done and answer any questions she may have.					
2. Draw blood for screening tests: hemoglobin, syphilis, HIV, and malaria rapid diagnostic test, if malaria suspected.					
3. Dispose of syringe/needles/lancets in sharps box. Label samples and ensure they are taken to the appropriate place for processing.					
4. Remove gloves. Wash and dry hands.					
5. Provide first tetanus toxoid immunization if indicated.					
6. If woman is in second trimester (13 weeks gestation or more), has not received sulfadoxine-pyrimethamine within the last month, and is not on cotrimoxazole, counsel her on need for sulfadoxine-pyrimethamine and provide it under directly observed therapy, using a clean cup and drinking water.					
7. Provide a long-lasting insecticide-treated net. Counsel on the importance of its use and how to use it.					
8. Provide counseling about need for iron/folic acid. Provide sufficient iron and folic acid tablets (30–60 mg elemental iron and 0.4 mg folic acid) to last until next contact.					
9. Record test results, immunization, provision of sulfadoxine-pyrimethamine, long-lasting insecticide-treated net, and iron/folic acid on antenatal care card/clinic record.					
<b>Skill/Activity Performed Satisfactorily</b>					

<b>Checklist for Assessment of Gestational Age in the Second Trimester during Antenatal Care (Many of the following steps/tasks can be performed simultaneously.)</b>					
<b>Step/Task</b>	<b>Cases</b>				
<b>Formulate Plan of Care</b>					
1. Based on results of history, physical exam, and screening test results, formulate a plan of care to address problems or needs and discuss with client.					
<b>Skill/Activity Performed Satisfactorily</b>					
<b>Counseling (may be done individually and/or in group setting)</b>					
1. Counsel on birth preparation/complication readiness, including danger signs and what to do if they occur.					
2. Counsel on daily use of combined iron and folic acid tablets for prevention of anemia during pregnancy.					
3. Counsel on use of the long-lasting insecticide-treated net.					
4. Counsel on other issues relevant to the woman's plan of care and answer her questions.					
5. Set the date of the next antenatal care contact and ensure the woman understands the importance of continued antenatal care that includes sulfadoxine-pyrimethamine at not less than monthly intervals.					
6. Thank the woman for coming to the antenatal clinic.					
<b>Skill/Activity Performed Satisfactorily</b>					



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**M**aternal and Child  
Survival Program

# Certificate

## PARTICIPANT NAME

Is awarded this certificate for successful completion of the **“Toolkit to Improve Early and Sustained Uptake of Intermittent Treatment of Malaria in Pregnancy”** workshop.

Month, Day, Year  
City, Country

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**Program Office Director Name**  
**Title**  
**Maternal and Child Survival Program**



# Executive Summary

## Background

Malaria in pregnancy (MIP) is a leading indirect cause of maternal mortality. Intermittent preventive treatment during pregnancy with sulfadoxine-pyrimethamine (IPTp-SP) early in the second trimester of pregnancy and during scheduled ANC visits, is essential to prevent the devastating consequences of MIP<sup>1</sup>. Many health workers are accustomed to relying on the woman's perception of fetal movement (quickening) to give the first dose of IPTp-SP, as per outdated WHO recommendations<sup>2</sup>. In 2012, WHO updated its policy guidance, recommending administration of the first dose of sulfadoxine-pyrimethamine (SP) as early as possible in the second trimester and at every scheduled ANC visit thereafter up to the time of delivery.<sup>3</sup>

To promote better understanding of and adherence to the 2012 WHO IPTp-SP recommendations, the Maternal and Child Survival Program (MCSP) developed the Toolkit to Improve Early and Sustained IPTp Uptake (hereinafter referred to as “the Toolkit”). The Toolkit was developed by the United States Agency for International Development (USAID)-supported Maternal and Child Survival Program Maternal Health and Malaria teams, in collaboration with the President's Malaria Initiative (PMI). It consists of a job aid (poster); a technical summary; a PowerPoint presentation for clinical training; and an implementation guide.

Following its development, the Toolkit was evaluated to determine the clarity and utility of its components, and its usability, among health workers who provide ANC services at different levels of health facilities in selected districts in Madagascar and Mozambique.

## Methodology

MCSP field-tested the Toolkit, including the job aid in Madagascar and Mozambique, two MCSP countries with large MIP programs. MCSP staff oriented health workers on the job aid, who then went back to their health facilities and used the job aid from August – December 2016. In December 2016, MCSP staff conducted follow up interviews with the health workers in both countries using a standardized data collection form that allowed for probing to solicit qualitative and quantitative feedback about their use of the job aid.

## Madagascar

Prior to beginning the Toolkit evaluation, MCSP/Madagascar staff met with senior MOH staff to orient them to the activity. All those contacted expressed interest in and support of the Toolkit evaluation and agreed that the choice of Moramanga District was appropriate. A convenience sample was done of 25 health workers from 24 facilities. All health workers selected for this evaluation had completed a series of five MCSP-led sessions on maternal and newborn health within the past twelve months that included malaria in pregnancy and malaria case management. Knowledge pre- and post-tests were administered at the start and end of the orientation workshop. Scores improved following the orientation from an average of 81.2% correct answers pre-course to an average of 92.4% correct answers post-test.

<sup>1</sup> Roll Back Malaria. Global Call to Action to Increase National Coverage of Intermittent Preventive Treatment of Malaria in Pregnancy, April 2015.

<sup>2</sup> World Health Organization. A strategic framework for malaria prevention and control during pregnancy in the African region. Regional Office for Africa. Brazzaville: 2004.

<sup>3</sup> World Health Organization. Updated WHO Policy Recommendation Intermittent Preventive Treatment of malaria in pregnancy using Sulfadoxine-Pyrimethamine (IPTp-SP). Geneva: 2012.

## Mozambique

Prior to evaluating the toolkit, MCSP/Mozambique conducted an initial stakeholders meeting in Maputo with representatives of the National MOH and the NMCP to orient them to the activity. The national level stakeholders expressed support for the Toolkit evaluation and agreed that the initial orientation and field testing of the Toolkit could proceed in Nampula Province, where MCSP has an established program supporting the Provincial Health Directorate to improve the quality of maternal and newborn care including prevention and management of malaria in pregnancy. Facilities were selected based on a convenience sampling of MCSP and non-MCSP supported sites in Nampula Province. A short survey on ANC attendance was drafted and administered by MCSP Mozambique staff to supported health centers, and based on these data, the program targeted sites with a high volume of ANC visits and, where possible, higher rates of early ANC initiation in the 1<sup>st</sup> or 2<sup>nd</sup> trimester. Thirty-three facility-based providers and system managers in Meconta District (Nampula Province) were oriented to the toolkit. Knowledge pre- and post-tests were administered at the start and end of the orientation workshop. Participants trended toward better scores on post-test, but we did not test formally for significance, as test forms did not include identifiers that would permit analysis of paired scores.

## Follow-Up of Health Care Workers

During the orientation workshops in both countries, all participants were asked if they were willing to participate in a brief interview about their use of the job aid. Three to four months after the workshop, participants from 31 health facilities received short key informant interviews by mobile phone.

## Results

### Estimations of Gestational Age

All health workers interviewed in both Madagascar and Mozambique said that the orientation workshop and job aid reminded them how to estimate gestational age in patients using the date of their last menstrual period (LMP), measure symphysis-fundal height, calculate the gestational age for the date of the current ANC visit, and to calculate the estimated date of delivery. Those interviewed mentioned that although some women could not remember the date of their LMP, the job aid was helpful in that it reminded them of how they are supposed to conduct routine examinations. This was true especially for providers who work alone at health facilities. Health workers also stated that the fundal height measurement component of the job aid was very helpful, since so few women can remember the date of their LMP, and that this facilitated their identifying women who were early in their second trimester, or at least 13 weeks.

### Performing Physical Exams

All health workers said that the orientation workshop and job aid helped remind them to provide physical exams and listen to the fetal heart rate. All health workers in Madagascar stated that the orientation workshop and job aid they used helped remind them to ask about quickening if a woman's gestational age was greater than 16 weeks.

### Malaria Counseling

All health workers interviewed in Madagascar and Mozambique said that the Toolkit orientation workshop and job aid were helpful in reminding them to provide SP to women who should receive it. Multiple health workers in Mozambique stated that orientation was extremely helpful in reminding them about proper SP dosage. Health workers in Madagascar also liked that the job aid reminded them of the proper timing to start SP. Furthermore, all health workers in both Madagascar and Mozambique agreed that the job aid helped them encourage the use of LLINs.

## How to Improve the Toolkit and Job Aid

All health workers in both countries said that they liked the orientation workshop and job aid. When asked to specify, most said that it improved their skills and that they liked how the job aid systematically laid out the tasks that need to be done during the ANC consultations. Other health workers mentioned that they liked that the job aid was simple and easy to read. Health worker responses showed that this job aid helped them



understand that they cannot rely on LMP to establish GA, but must also conduct a physical exam, especially early in the second trimester.

When asked how the job aid could be improved, there were multiple opinions: most wanted the size of the font to be larger, the job aid to be in color, and some suggested having a version that they could hang on the wall. Multiple health workers asked for a pregnancy wheel to help them calculate gestational age and the expected date of delivery. When asked about use, all twenty-nine health workers in Mozambique said they used the job aid all the time. In Madagascar, six health workers (25%) used the job aid all the time, sixteen health workers (67%) used the job aid most of the time, and two health workers (8%) used it occasionally. Finally, all but one of the health workers interviewed (who said she worked alone) said they would recommend the job aid to their colleagues. Many health workers in Mozambique said that they thought that the job aid should be distributed to all health professionals.

Opinions diverged on whether the length of the orientation on the use of the job aid was sufficient for them to begin to use the job aid without further support. In Madagascar, seven health workers (29%) said that the training was not long enough while 17 (71%) health workers said that the length of time for the orientation was sufficient. Twenty-five (86%) health workers in Mozambique thought that the orientation was long enough. When asked what would be added to the orientation, health workers said that it was too fast and that they would want a second day of training, especially for new health workers or those who had not been trained in malaria in pregnancy previously; one said that the training was too short and there was not enough time to practice, while another said there were too few practical exercises.

## Discussion and Recommendations

All health workers who participated in the evaluation of the toolkit and job aid stated that it reminded them about important elements of history-taking (asking about the LMP) and physical exam (measuring uterine size) to determine gestational age. This evaluation was strengthened by strong support for use and evaluation of the toolkit by central and provincial/regional level stakeholders in each country. The evaluation also benefited from a high interview response rate from participants.

The evaluation has several limitations. First, it was conducted in a small, non-representative, convenience sample of ANC providers and managers. Additionally, self-reported acceptability may not correlate with actual use, impact of the job aid on quality of service delivery, or health outcomes.

Based on the results of this evaluation, MCSP recommends:

1. Revision of Toolkit training materials (including algorithm, checklist and presentation slides) to reflect input from the evaluations in Madagascar and Mozambique
2. Development of a wall poster version of the job aid to enhance readability
3. Provision of pregnancy wheels to assist health workers to calculate GA and estimated date of delivery
4. Dissemination of the updated Toolkit through MCSP and Jhpiego networks and email lists, including malaria in pregnancy partners and Roll Back Malaria's Malaria in Pregnancy Working Group, and PMI Resident Advisors, with potential PMI call to the field about revised Toolkit and ANC guidance

This field test of an ANC toolkit and job aid found the job aid to be well accepted with only minor suggested revisions. Based on previous literature and as modeled in LiST (Lives Saved Tool) for increased IPTp coverage, the use of this job aid and the intended increase in women taking SP can potentially lead to a decrease in maternal anemia<sup>4</sup>, decrease in stunting in children under five<sup>5</sup>, and decrease in babies that are small for gestational age<sup>6</sup>. Widespread dissemination of the Toolkit upon finalization will maximize the Toolkit's potential for impact on malaria in pregnancy outcomes.

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<sup>4</sup> Stevens GA, Finucane MM, De-Regil LM, et al. Global, regional, and national trends in haemoglobin concentration and prevalence of total and severe anaemia in children and pregnant and non-pregnant women for 1995-2011: a systematic analysis of population-representative data. *Lancet Global Health* 2013; 1(1): e16-25.

<sup>5</sup> Christian P, Lee S.E., Angel, M. D., et al. 2013. Risk of childhood undernutrition related to small-for-gestational age and preterm birth in low and middle-income countries. *International Journal of Epidemiology*. 42: 1340-1355. doi: 10.1093/ije/dyt109

<sup>6</sup> WHO-MCEE estimates: [http://www.who.int/healthinfo/global\\_burden\\_disease/estimates/en/index1.html](http://www.who.int/healthinfo/global_burden_disease/estimates/en/index1.html)