

PREVENTING MALARIA DURING PREGNANCY

Redesigned referral process did not increase antenatal care (ANC) attendance for pregnant women

Target a Priority Outcome Nigeria has the highest burden of malaria globally which remains the top cause of child illness and death.¹ The US Agency for International Development (USAID) Nigeria supports efforts to decrease the number of malaria-related deaths in pregnant women and children. Intermittent preventive treatment (IPTp), which is a full course of antimalarial medicine given to women at routine health care visits during pregnancy (also known as antenatal care visits or ANC), reduces chances of placental malaria and increases the likelihood of healthy outcomes for mothers and babies.² However, in 2015, only 19% of Nigerian women received the recommended three or more IPTp doses during their last pregnancy.³

Translate Evidence-Based Insights IPTp is not a one-time behavior. Instead, it should be taken multiple times at specific intervals during pregnancy (at least one month apart). Evidence suggests that this schedule causes confusion among women and health workers regarding when and how often to take IPTp.⁴

Evidence also indicates that unsupportive family members, such as husbands, may be a key barrier to





ANC visits and IPTp use in Nigeria.⁵ There is corresponding evidence that behavioral change communications in Nigeria should specifically attempt to increase husband's support of IPTp health-seeking behaviors IPTp.⁶

To address these barriers and increase ANC visits and IPTp uptake, OES, USAID and its implementing partner, John Hopkins University (JHU), designed an intervention in which community volunteers (CVs): 1) explicitly requested verbal confirmation of male partner support for attending ANC; and 2) provided easy to use record cards that made the number of ANC visits and IPTp doses clear and visual. (Image of card below.)

IPTp /SP Record Card

Client's Name/ Signature _____
 Phone Number _____ Address _____
 LGA/Ward _____ Health Facility _____ HF Record Number _____

IPTp CHECKLIST FOR MOTHER

CV Visit	Today	
IPTp #1 at ANC	Date: _____	 <input type="checkbox"/>
IPTp #2 at ANC	Date: _____	 <input type="checkbox"/>
IPTp #3 at ANC	Date: _____	 <input type="checkbox"/>
IPTp #4 at ANC	Date: _____	 <input type="checkbox"/>

PROVIDER: PLEASE GIVE DATE (LIN PROVIDED): _____
 PROVIDER: PLEASE MARK HERE WHEN IPTp NOT GIVEN ☐
 If IPTp not provided for a woman at an ANC visit, mark here:

DATE	REASON
<input type="checkbox"/>	<input type="checkbox"/> Stock Out <input type="checkbox"/> Not due for IPTp <input type="checkbox"/> Other
<input type="checkbox"/>	<input type="checkbox"/> Stock Out <input type="checkbox"/> Not due for IPTp <input type="checkbox"/> Other
<input type="checkbox"/>	<input type="checkbox"/> Stock Out <input type="checkbox"/> Not due for IPTp <input type="checkbox"/> Other
<input type="checkbox"/>	<input type="checkbox"/> Stock Out <input type="checkbox"/> Not due for IPTp <input type="checkbox"/> Other

Record Card given to pregnant women by CVs

¹ Retrieved from:

<https://www.usaid.gov/nigeria/global-health>.

² ter Kuile, et al. "Effect of sulfadoxine-pyrimethamine resistance on the efficacy of intermittent preventive therapy for malaria control during pregnancy: a systematic review." *Jama*, 297 (2007): (23), 2603-2616.

³ Nigeria Malaria Indicator Survey, NMIS, 2015

⁴ Hill, et al. "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* (2013): 10(7), e1001488.

⁵ Diala, et al. "[Barriers to uptake of malaria prevention and treatment during pregnancy in Cross River and Nasawara States, Nigeria.](#)"

Washington (District of Columbia):

C-Change/FHI,360 (2013):14-16

⁶ Diala, et al. "Perceptions of intermittent preventive treatment of malaria in pregnancy (IPTp) and barriers to adherence in Nasarawa and Cross River States in Nigeria." *Malar J* (2013): 12, 342.

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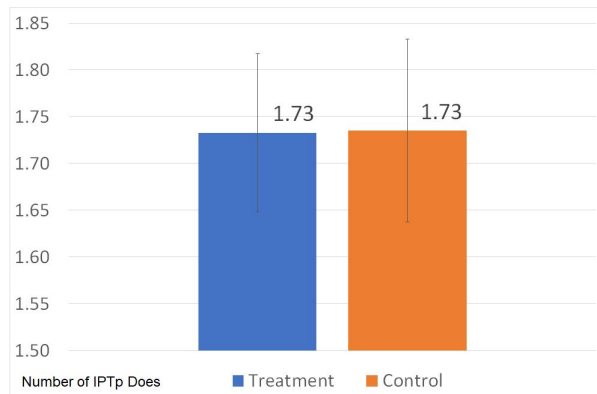
detect changes due to the intervention.

Embed Tests To evaluate the effectiveness of the intervention, half of the 72 wards in Kebbi State, Nigeria were randomly assigned to receive the two-pronged intervention. Prespecified ANC and IPTp outcomes - women taking at least one dose of IPTp as well as the number of doses of IPTp taken at ANC or elsewhere - were compared across 10,000 women from the treatment and control wards.

Analyze Using Existing Data Additional measures were added to existing data collection forms to capture the prespecified outcomes.

Results The results suggest the intervention did not change the number of women taking at least one dose of IPTp or the average number of doses of IPTp at ANC or elsewhere.

Number of IPTp doses taken by mothers in Treatment and Control Groups



There were no differences in the average number of ANC visits or the fraction of women visiting ANC at least once. Actual rates of IPTp uptake exceeded 85% in the control group, which was well above ex-ante expectations. This limited the ability to

There is suggestive exploratory evidence that the intervention may have influenced beliefs about IPTp-- the intervention was associated with a small statistically significant increase in the number of IPTp doses that mothers report that pregnant women should take (from 3.07 to 3.30).

Build Evidence While the intervention had no impact on mothers' behavior, it did provide suggestive evidence of small but significant impact on beliefs. Future studies could explore whether these changes translate to behavior change downstream in future pregnancies.

OES, USAID and JHU were able to test the impact of a small intervention by adding randomization to the project's planned scale-up. Using a project's roll out as an opportunity to rigorously test various interventions may be a promising way to embed testing into USAID programs. Further, the additional measures offered valuable data, which informed key program activities.

This project is a collaboration between the Office of Evaluation Sciences, US Agency for International Development and, John Hopkins University (JHU).