

This document was prepared as a pre-read for the meeting of the PAHO Malaria Technical Advisory Group and is not an official document of PAHO/WHO

# Cross-Border Pilot Effort on Self-testing and Self-treatment for Malaria among Miners Across the Brazil – French Guiana – Suriname Border



Pan American  
Health  
Organization



World Health  
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REGIONAL OFFICE FOR THE **Americas**

Meeting of the Malaria Technical Advisory Group  
PAHO-HQ Washington DC, Room C  
7 - 8 June 2017

# Session Objective

- Update the Malaria Technical Advisory Group on the pilot project which BRA-FGU-SUR plan to implement and the proposed engagement or role of PAHO/WHO in the process

## *Cross-Border Pilot Effort on Self-testing and Self-treatment for Malaria among Miners across the Brazil – French Guiana – Suriname Border*

Background Document for Session 7

REGIONAL MALARIA PROGRAM  
June 2017, PAHO/WHO



Pan American  
Health  
Organization

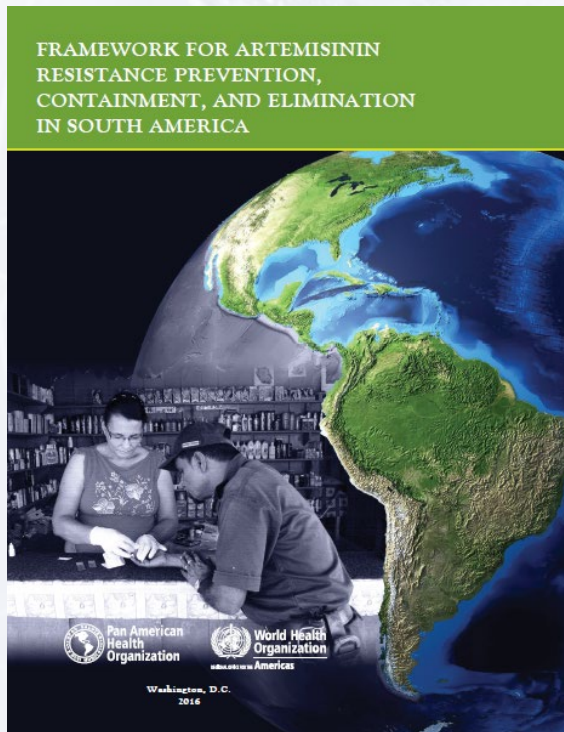


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# Framework for Artemisinin Resistance Prevention, Containment, and Elimination in South America



- Consolidated in November 2014 to prevent the development of artemisinin resistance in South America, and to contain and eliminate resistance if it should be confirmed
- Longer-term objective of the framework is to eliminate *P. falciparum* malaria
- Implemented with the support of USAID through the work of the Amazon Network for the Surveillance of Antimalarial Drug Resistance (RAVREDA) since 2014.
- **Targeted and intensified efforts are deemed essential** – to facilitate the achievement of the Global Technical Strategy (GTS) for Malaria 2016-2030 goals, the commitments outlined in the Plan of Action for Malaria Elimination in the Americas 2016-2020, and the targets expressed by countries in their respective national malaria plans.

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# The Malakit Project

- **Cross-border pilot effort on self-testing and self-treatment for malaria among miners across the Brazil – French Guiana – Suriname border**
- **A joint targeted and intensified response from the three countries** in support of the implementation of the Framework for Artemisinin Resistance Prevention, Containment, and Elimination in South America
- Seeks to **assess a new malaria strategy targeting gold miners working illegally in French Guiana**, based on the distribution of self-diagnosis kits and self-treatment against *P. falciparum* in cross-border areas.
- Main objective of the intervention is **to increase coverage of malaria diagnosis and treatment among illegal miners in French Guiana**
- Secondary objectives include:
  - the improvement in the use of anti-malarial treatments against *P. falciparum* as per WHO recommendations;
  - reduction in the prevalence of malaria among illegal gold miners in French Guiana; and
  - reinforcement of appropriate knowledge, attitudes, and preventive practices among the same target population

Les mobilités associées à l'exploitation aurifère



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# Situation of Small Scale Miners in French Guiana



- Estimated population of around 5,000 to 20,000 people, mainly of Brazilian citizenship; working throughout a large area of the Amazon forest of French Guiana (FG)
- Clustered into small to medium mining camps which can accommodate from a dozen to hundreds of miners
- Two recent major active case detection studies have shown a high prevalence of malaria in these mining populations.
  - **Eaux Claire**: active case detection study conducted by Pommier de Santi, et. al. indicated that **19.9% miners were positive by RDT, 16.0% by microscopy, and 47.1% by PCR** (44.4% Pf, 34% Pv, 21.7% Pf+Pv) .
  - ORPAL epidemiological study conducted by Douine, et. al in 2015 found that **4.3% were positive by RDT and 22.3% were positive by PCR** (47.9% Pf, 37.2%, Pv, 10.6% Pf+Pv) among 421 illegal gold miners working in 68 different mining sites in French Guiana

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# Key Observations, Challenges, and Repercussions

- **Lack of Access to Diagnosis in the Mining Area.**
  - access is mainly through Malaria Service Deliverers (i.e. Community Health Workers) on the Suriname side of the border, financed by the Suriname Ministry of Health (in cooperation with the Global Fund).
- **Incomplete Use of the Treatment in the Mining Areas.**
  - ACTs (mainly Artecom®) are widely available in mining sites throughout the black market, but are expensive (1 or 2 grams of gold –equivalent to 35 to 70 U\$);
  - damaging misuse of the treatment, with majority of the miners stopping the treatment as soon as their malaria symptoms have disappeared.
- **Challenges of French Health Care Regulation in the Mining Areas of French Guiana.**
  - French law does not allow for unlicensed medical personnel to perform malaria diagnostic tests and/or provide malaria treatment.
  - Due to the illegal status of miners on French territory and dispersed location throughout the jungle, it is extremely difficult to have continuous presence of medical staff in mining camps.

# Key Observations, Challenges, and Repercussions

- **High Cost of Interventions in the Mining Camps:**
  - Camps can only be reached after hours or days of walking in the jungle, and formal interventions by French Guiana authorities need to be done through helicopter
  - Even in Suriname, the network of Malaria Service Deliverers is expensive to maintain, and is financed largely by a Global Fund grant.
  - Security can also be an issue in camps.
- **Difficulties of Traditional Malaria Community Health Workers:**
  - Legal barriers to the role of traditional community health workers in diagnosis and treatment;
  - Only miners are able to stay regularly in camps
  - Logistically difficult and expensive to bring supplies to the camps.
- **Opportunities for Interventions at Resting Sites:**
  - Brazilian miners come to FG usually by directly crossing the border from Brazil or by flying to Suriname and then reaching the mining sites in FG.
  - Once on the FG territory many of these miners regularly travel to “resting sites” spread out along the borders of FG/Suriname and FG/Brazil approximately every 3 months.
  - Most of the mining population traveling to Suriname goes to anyone of the 3 main resting sites
  - Resting sites provide strategic opportunity to implement health related interventions, including testing, treatment, and potentially training for self-diagnosis and self-treatment.
- **Potential for Resistance:**
  - High level of transmission of malaria associated with the absence of diagnosis and incomplete usage of ACTs makes mining camps a hot spot for risk of emergence of malaria drug resistance and a high reservoir for infection.
  - Jeopardizes the possibility of malaria elimination in the region, and could undermine the significant gains made in the border areas and in French Guiana and Suriname during the last decade.

# The Malakit Project Strategy



- The pilot project will train and educate miners to act as their own “Malaria Service Deliverers,” and would be provided with the tools they need to self-test, self-treat, and “self-track” while working in the mining areas.
- Underwent extensive discussions among technical and political personnel among the three countries, in consultation with PAHO/WHO and external experts since July 2016.
- Joint responsibility of the country counterparts (from Brazil, French Guiana, and Suriname) who have been designated as members of the overall scientific committee and institutional / political coordinating committee.
- Overall coordination will be done by the ARS, French Guiana; and each country will form their respective scientific and coordination teams / structures to ensure appropriate implementation of activities.
- An appropriate form of official agreement between the three countries (to be signed by the Directors of Health of each country) will be pursued by the political coordination committee.

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# The Malakit Project Strategy

- After final discussions during a meeting convened by the countries and hosted by the Agence Régionale de Santé (ARS) of French Guiana in Cayenne, it has been decided that the project will be carried out jointly by Brazil, Suriname and France as follows:
  - **Implementation:** Distribution of self-diagnosis and self-treatment kits to people working illegally at gold-mining sites in French Guiana; along with the provision of training. This distribution will take place at resting sites and health centers in French Guiana using trained facilitators.
  - **Monitoring of the study:** Proactive data collection will be conducted by facilitators / collaborators in the resting sites and via gold miners themselves through a mobile application (following the monitoring plan indicated in the protocol)
  - **Performance assessment / Evaluation:** The final evaluation of the project will be carried out in a cross-sectional study "Orpal bis", with a questionnaire on behaviors, attitudes and practices and blood sampling to measure the prevalence of Plasmodium carriers before / after the intervention. The same study (Orpal) was carried out in 2015 along the Surinamese border, and will be carried out before implementation along the Brazilian border. Depending on the results, the sustainability of the action will be determined by the Health Authorities.
- The protocol for the pilot is scheduled to be submitted to the Ethics Review Board of each country and for funding to the Programme de Coopération Interrégionale Amazonie (PCIA) in June 2017.
- The pilot is proposed to run for a period of three years beginning in January 2018.

# Proposed Role and Engagement of PAHO

Considering PAHO's mandate and core functions, the approach in supporting the Malakit Pilot Project is outlined as follows:

- Continuing overall coordination of the implementation of the Framework for Artemisinin Resistance Prevention, Containment, and Elimination in South America; including the creation of platforms or mechanisms to address legal and / or policy-related impediments to malaria elimination;
- Technical guidance to countries in implementing interventions that are aligned to their national strategic plans and consistent to WHO recommendations / guidelines.
- Technical support and guidance in refining the concept and protocol of the Malakit Pilot Project (completed);
- Technical and logistical support to the coordinating committee for the Malakit Pilot Project (for the duration of the pilot);
- Linkage with additional prospective donor agencies -e.g. Global Fund, USAID, Gates Foundation, etc.;
- Technical collaboration in the monitoring and evaluation of the pilot project, analysis of the results, and consolidation of conclusions and recommendations;
- Facilitation of the expanded application of the strategy (if effective) in similar settings

After approval is obtained from the corresponding Ethics Review Board of each country, the protocol for the Malakit Pilot Project will be submitted for the approval of the PAHO Ethics Review Committee to enable the PAHO Regional Malaria Program to engage more extensively in the project.

The Malaria TAG will also be updated accordingly on the progress of the pilot for corresponding feedback and guidance.

# Requested Action by the Malaria TAG

- While this document is being presented for information purposes, comments and feedback from the Malaria TAG are encouraged

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# Thank you

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