

AMAZON MALARIA INITIATIVE (AMI) COMMUNICATION COMPONENT



QUARTERLY ACTIVITY REPORT

Reporting Period: April 1–June 30, 2015

Contract No. AID-527-C-13-00004



USAID
FROM THE AMERICAN PEOPLE



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About Links Media

Links Media, LLC is a management consulting company based in the Washington D.C. metropolitan area, specializing in information technology and marketing communications. We provide advanced management consultation services to governments and private sector clients in the areas of health, environment, science and technology, biotechnology, governance, human rights, economic prosperity, conflict resolution, education, public engagement, risk and crisis management, and social entrepreneurship.

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Abbreviations and Acronyms

ACT	Artemisinin-Based Combination Therapy
AMI	Amazon Malaria Initiative
ASTMH	American Society of Tropical Medicine and Hygiene
CDC	United States Centers for Disease Control and Prevention
COR	Contracting Officer's Representative
DIRESA	Regional Health Directorates of Peru
FAQ	Frequently Asked Questions
GFATM	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GTS	Global Technical Strategy
HRP2	Histidine-Rich Protein 2
IDB	Inter-American Development Bank
IPTP	Intermittent Preventive Treatment of Malaria during Pregnancy
IR	Intermediate Result
LAC	Latin America and Caribbean Region
Malaria Zero	Bill & Melinda Gates Foundation-funded project to eliminate malaria from Hispaniola (formerly known as the Haiti Malaria Elimination Consortium)
MDGs	United Nations' Millennium Development Goals
MOH	Ministry of Health
MSPS	Ministry of Health and Social Protection of Colombia
NAMRU-6	US Naval Medical Research Unit 6 - Peru
NMCP	National Malaria Control Program
PAHO/WHO	Pan American Health Organization
PMI	President's Malaria Initiative
RAVREDA	Amazon Network for the Surveillance of Antimalarial Drug Resistance
SIAPS	USAID-funded Systems for Improved Access to Pharmaceuticals and Services Program
TA	Technical Assistance
US	United States of America
USAID	United States Agency for International Development
WHO	World Health Organization

Background

The United States Agency for International Development (USAID) launched the Amazon Malaria Initiative (AMI) in 2001 to improve the prevention and control of malaria in partner nations of the Amazon basin. The initiative's mission is to (i) ensure that national malaria control programs in the Amazon basin and selected Central American countries substantially incorporate best practices and (ii) promote evidence-based policy changes in the partner countries. From inception, AMI has maintained a comprehensive view of malaria prevention and control. Its initial focus was to build the evidence base to support the introduction of artemisinin-based combination therapy (ACT) for *P. falciparum* malaria in all Amazon basin countries, and to improve access to and quality of malaria diagnosis. As progress was made in introducing ACT, the areas of epidemiological surveillance, vector control, and systems strengthening received further attention.

USAID established AMI as a collaborative partnership among organizations (the AMI technical partners) that provide technical and scientific expertise and collaborate with the nations' ministries of health (MOHs) and national malaria control programs grouped in the Amazon Network for the Surveillance of Antimalarial Drug Resistance (RAVREDA) to proactively address malaria prevention and control in a sustainable manner. The partner countries also collaborate with one another and maintain an ongoing exchange of information and expertise through South–South collaboration promoted and supported by AMI. Countries currently supported by AMI include Belize, Brazil, Colombia, Ecuador, Guatemala, Guyana, Honduras, Nicaragua, Panama, Peru, and Suriname.

The initiative's regional approach benefits partner countries through (i) training and technical assistance (TA), (ii) the development of standardized guidelines and protocols, (iii) the comparability of research and monitoring results within and across countries, and (iv) coordinated approaches to addressing shared problems.

This report describes Links Media's activities for this project for the period of April 1 through June 30, 2015. Also included is a summary of achievements and results, as well as suggested future activities, challenges, and solutions.

Overview

Under the Amazon Malaria Initiative (AMI) Communication Component, Links Media's activities are designed to strengthen AMI's role in improving malaria prevention and control in the Amazon basin and Central America through the application of strategic communication, outreach and dissemination approaches. During the period from April 1-June 30, 2015, Links Media worked directly with the National Malaria Control Programs (NMCPs) of Belize, Brazil, Colombia, Guyana, Guatemala, Ecuador, Honduras, Nicaragua, Panama, Peru, and Suriname to improve the use of communication interventions for malaria.

Activities by Intermediate Results

Highlights from activities that Links Media carried out under the contracted scope of work are detailed below according to AMI Intermediate Result (IR):

IR 1 – Evidence-base increased

- Links Media completed needs assessments and comprehensive literature reviews of the epidemiological situations in Peru and Central America along with the history of past malaria elimination and/or control efforts. An evidence review was also conducted for a technical assistance document that was provided to the NMCP of Brazil.
- An abstract was submitted to the American Society of Tropical Medicine and Hygiene (ASTMH) 64th Annual Meeting (2015). The abstract was based on qualitative data collected during communication assessments with 11 countries' NMCPs in 2014, and was submitted with the title, "So you say you want elimination? Using communication and advocacy to advance malaria elimination in the Americas."

IR 2 – Evidence-base communicated and used

- Successfully disseminated study findings from Peru, in Spanish, about the applicability of advanced molecular methods to investigate malaria outbreaks. Links Media provided strategic media outreach support to CDC and NAMRU-6 by consulting on the key public health messages from an original English-language journal article, which was authored by the Peruvian Ministry of Health (MINSAs), two regional health directorates (DIRESAs), CDC, and NAMRU-6, and had been published in the May 2015 scientific journal *Emerging Infectious Diseases* under the title, "Molecular Epidemiology of Malaria Outbreak, Tumbes, Peru, 2010–2012." Messages included the need for more advanced epidemiological tools and laboratory capacity to analyze drug resistance patterns in local strains of malaria, especially as countries like Peru move towards elimination. Links Media created a tool with probable media questions and answers based on the key messages, and then pitched the article to several health and science journalists. As a result, the Latin American edition of the science and development news website SciDev.net covered the story, and quoted Dr. Willy Lescano (NAMRU-6) in Peru whom Links Media prepared as a media spokesperson in a Spanish-language story published as: "*Epidemiología molecular: eficaz ayuda contra la malaria*" (in English: Molecular epidemiology: effective aid against

malaria). See [Annex 3](#), or visit: <http://www.scidev.net/america-latina/malaria/noticias/epidemiologia-molecular-eficaz-ayuda-contra-la-malaria.html>.

- Colombia's Ministry of Health and Social Protection (MSPS) requested Links Media's technical assistance to prepare an advocacy document disseminating lessons learned from a recently concluded Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM) project in the area of health communication for malaria prevention and control. With the USAID COR's concurrence, Links Media worked with the MSPS to refine the scope of work for this document for the purpose of culling the evidence base to inform policy and budgetary decisions at the decentralized level.
- Links Media convened a teleconference with the CDC to clarify the key public health messages related to the histidine-rich protein 2 (HRP2) analyses from Honduras, Guyana, Suriname, Colombia, and Brazil that have been published or are forthcoming. Links Media agreed to summarize the overarching points from the different studies to be used in media pitching letters that will be shared with USAID and the CDC for clearance, so that AMI's systematic effort to characterize genetic variations in *Plasmodium falciparum* supported by AMI can be disseminated across the LAC region.

IR 3 - More inclusive and better informed policy process promoted

- Links Media delivered a detailed technical assistance document to the Brazilian NMCP to guide the development of a national social mobilization strategy for malaria. The document entailed a review of implementation data from other countries in the region such as Colombia and Suriname, and emphasized techniques for reaching special populations such as riverine communities in the Amazon region, indigenous groups, and itinerant gold miners.
- Collaborated with the national malaria programs of Belize, Guatemala, Honduras, Nicaragua, and Panama to complete a Strategic Malaria Communication Guide in support of Central American action towards elimination. The Guide highlights key focus areas, and will assist NMCPs to use communication and advocacy to work towards malaria elimination with stakeholders from multiple sectors.
- Peru's communication strategy was developed in coordination with the Peruvian ENSM and the PAHO/WHO country focal point for malaria.

Task 1. Design an AMI dissemination/communication strategy, and prepare annual dissemination/communication work plans.

1.1. Completed.

Task 2. Communication strategies designed for each of six Amazon countries (Brazil, Colombia, Ecuador, Guyana, Suriname, Peru), and one communication strategy for the bloc of Central American countries (Belize, Guatemala, Honduras, Nicaragua, and Panama)

2.3 Updated the Central America communication strategy ("Strategic Malaria Communication Guide for Central America") according to the COR's feedback regarding emphasis on

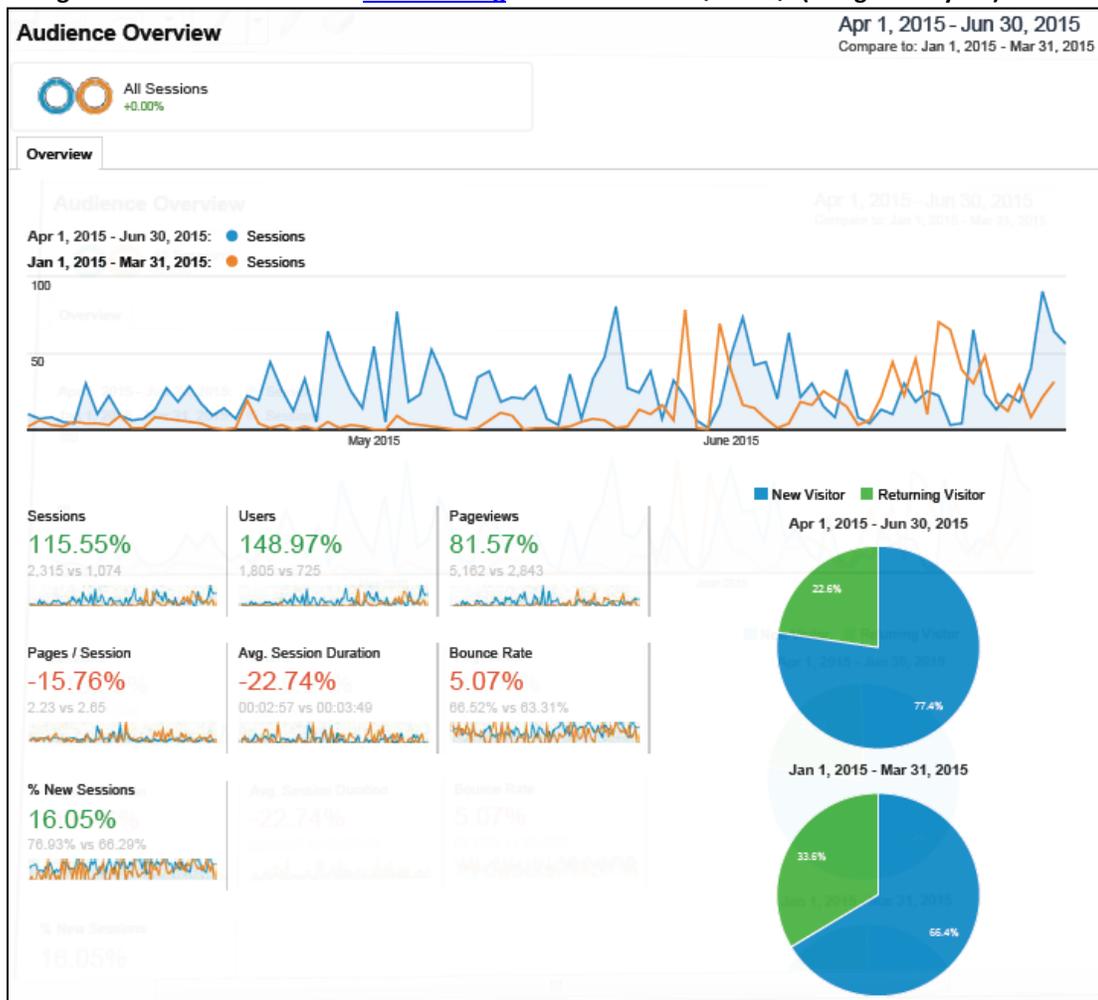
preventing the re-introduction of malaria after the 2020 target date for zero cases (*Deliverable 2.2*). The final draft focuses on communication to prepare for malaria elimination and the sustainability of surveillance efforts in a post-elimination era to avoid re-introduction. Versions of the guide were developed in English and Spanish and shared with the five Central American countries supported by AMI. All five NMCP directors agreed that the document will contribute to a shared understanding of malaria elimination amongst an array of private and public-sector stakeholders.

- 2.4. Discussed strategic focus of malaria communication strategy with the communications office of Colombia's MSPS and established a pathway for country adoption of the actions, including creation of an advocacy guiding document to help institutionalize the successful community-level communication work carried out under the recently concluded Colombia Malaria Project (*Deliverable 2.1*).
- 2.5. Followed up with MOH representatives from Ecuador and Suriname to reiterate requests for input on their respective malaria communication strategies. Received general responses about challenges in the overall enabling environment for malaria program activities. These include health system reorganization in Ecuador with a new MOH focal point for malaria, and an external financing barrier in Suriname.
- 2.6. Following the completion of PAHO/WHO's regional framework for artemisinin resistance, discussed the status of the corresponding communication component with the USAID COR and determined that it would be best to release a separate document with communication guidelines to educate and inform decision-makers about resistance (*Deliverable 2.3*).

Task 3. Develop and produce messages, dissemination and communication materials and instruments.

- 3.1. Met with the PAHO/WHO Strategic Fund to discuss challenges to the pharmaceutical supply chain that could be resolved through communication. Identified and determined several products and processes to help resolve issues, such as self instructional guides, pamphlets, medicine data sheets, and quarterly conference calls. Followed up on solutions with PAHO/WHO and MSH/SIAPS.
- 3.2. For a second straight quarter, increased traffic to the AMI project website (usaidami.org). The number of visitors continued to grow rapidly, reaching 1805 this quarter as a 249% increase over the previous quarter's 725 unique visitors. Of these, 77.4% were new visitors. A Google Analytics comparison with the previous quarter can be viewed in Figure 1, below.

Figure 1: Website metrics for usaidami.org user sessions in Q3 vs. Q2 (Google Analytics)



Links Media implemented weekly website updates, including the addition of newly published articles co-authored by AMI-supported countries and the CDC on vector surveillance and HRP2 deletion studies on the “Resources” section of the website to aid in dissemination (*Deliverables 3.2 and 3.4*). Journal articles included:

- Baldeviano GC et al. Molecular Epidemiology of *Plasmodium falciparum* Malaria Outbreak, Tumbes, Peru, 2010–2012. *Emerg Infect Diseases* 2015, 21(5): 797-803.
- Akinyi Okoth S et al. Variation in *Plasmodium falciparum* Histidine-Rich Protein 2 (Pfhrp2) and *Plasmodium falciparum* Histidine-Rich Protein 3 (Pfhrp3) Gene Deletions in Guyana and Suriname. *PLoS One* 2015, 10(5).

To support the Colombian MSPS to create and maintain a quality archival system, due to the lack of an existing repository on the ministry’s public website during a transitional phase, Links Media posted a series of four documents summarizing lessons learned from the communication component of the Colombia Malaria Project to the AMI Resources page:

- Román Albeiro Martínez Barrientos, David Alonso Calle Londoño, Lilliana María Blandón Loaiza y Olga Natalia Álvarez Echavarría. 2015. *La malaria en la escuela*.

Propuesta de integración curricular. Medellín: Fundación Universidad de Antioquia.

- Ospina Mesa, César Andrés. 2014. *Si el paludismo quieres vencer, con el toldillo lo puedes hacer. Voces y aprendizajes en la experiencia de implementación de COMBI en el Proyecto Malaria Colombia.* Medellín: Fundación Universidad de Antioquia.
- Ospina Mesa, César Andrés. 2014. *Aquí el toldillo usamos, por eso en las noches protegidos estamos. Sistematización de la experiencia de implementación de COMBI en el Proyecto Malaria Colombia, 2012-2013.* Medellín: Fundación Universidad de Antioquia.
- Ospina Mesa, César Andrés; Calle Londoño, David Alonso; Blandón Loaiza, Lilliana María; Álvarez Echavarría, Olga Natalia y Martínez Barrientos, Román Albeiro. 2015. *Comunicación y movilización social para la prevención y control de la malaria en Colombia. Una ruta para la planificación, la intervención y la sostenibilidad de COMBI en malaria.* Medellín: Fundación Universidad de Antioquia.

Figure 2: International reach of the usaidami.org website, April 1 - June 30, 2015 (Google Analytics)

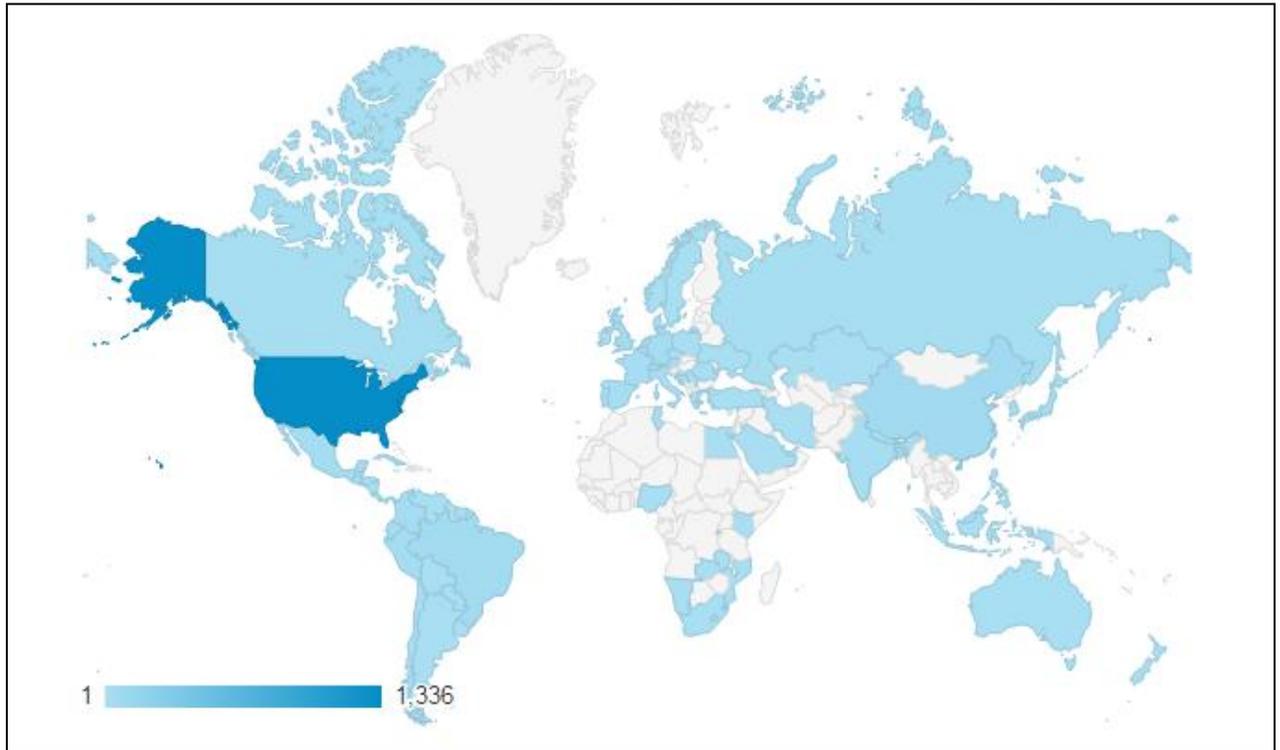


Figure 3: Top countries with visits to usaidami.org website (Google Analytics)

Country ?	Acquisition			Behavior		
	Sessions ? ↓	% New Sessions ?	New Users ?	Bounce Rate ?	Pages / Session ?	Avg. Session Duration ?
	2,315 % of Total: 100.00% (2,315)	77.37% Avg for View: 76.93% (0.56%)	1,791 % of Total: 100.56% (1,781)	66.52% Avg for View: 66.52% (0.00%)	2.23 Avg for View: 2.23 (0.00%)	00:02:57 Avg for View: 00:02:57 (0.00%)
1. United States	1,336 (57.71%)	67.22%	898 (50.14%)	58.38%	2.76	00:04:11
2. (not set)	254 (10.97%)	99.21%	252 (14.07%)	89.76%	1.08	00:00:13
3. China	63 (2.72%)	100.00%	63 (3.52%)	92.06%	0.95	00:00:05
4. Brazil	55 (2.38%)	65.45%	36 (2.01%)	67.27%	1.98	00:01:51
5. United Kingdom	44 (1.90%)	68.18%	30 (1.68%)	61.36%	2.61	00:02:55
6. Mexico	40 (1.73%)	97.50%	39 (2.18%)	77.50%	1.25	00:01:57
7. Peru	40 (1.73%)	80.00%	32 (1.79%)	72.50%	1.68	00:01:39
8. Colombia	39 (1.68%)	84.62%	33 (1.84%)	61.54%	2.28	00:02:00
9. Japan	39 (1.68%)	100.00%	39 (2.18%)	82.05%	0.97	00:00:18
10. Germany	29 (1.25%)	100.00%	29 (1.62%)	79.31%	1.14	00:00:33

- 3.3. To increase information sharing among partners, Links Media developed and distributed Volume 2, Issue 2 of the quarterly AMI news bulletin (*Deliverable 3.5*, see [Annex 1](#)) to over 400 AMI stakeholders via an email list serve, the AMI website, and social media. The bulletin detailed AMI technical and country partners' activities from January-March 2015, and also served as a tool for reaching external audiences like the international donor community, decision-makers in participating AMI countries, and the general public. As a single product, this bulletin provides updates on technical interventions under the main lines of action, and other special initiatives in the region. Bulletin updates were obtained from PAHO, USAID/Peru, CDC, MSH, and USP. Activities in Belize, Brazil, Colombia, Ecuador, Guatemala, Guyana, Honduras, Nicaragua, Peru and Suriname were highlighted from a country perspective. According to Bit.ly statistics, users downloaded the AMI bulletin from usaidami.org 83 times this quarter. Whereas the PDF of the AMI bulletin was posted as content on other websites without the same tracking tool, the total number of downloads from external websites is not known.
- 3.4. Conducted targeted website and social media engagement around World Malaria Day on April 25, 2015. Provided messages about malaria in the Americas to PMI and to USAID Global Health. Attended a Johns Hopkins University event about malaria in pregnancy on April 24, 2015. Published website content about the need for additional research about malaria in pregnancy in the LAC region, and acknowledged the regional variation in the WHO/Roll Back Malaria recommendation for intermittent preventive treatment of malaria

during pregnancy (IPTP); IPTP is not recommended for use in the LAC region due to low-incidence of malaria.

- 3.5. Links Media crafted and disseminated messages about malaria prevention and control for audiences including AMI partner governments, donors, cooperation agencies, research institutions, and the general public through systematic social media engagement. Links Media used social media to promote participation in World Malaria Day events in Brazil, Colombia, and Guatemala featuring ministry personnel, and later promoted images and summaries in follow-up to the events. Links Media posted less frequently to social media for AMI this quarter as compared to previous quarters, which likely impacted the level of engagement seen on AMI platforms. [Twitter](#) followers grew by 4% to 766, membership in the [LinkedIn](#) group increased by 16% to 49 members, and [Instagram](#) followers rose to 231. AMI's "Likes" on [Facebook](#) increased from 559 to 582.
- 3.6. On June 18, 2015, issued an electronic news alert to promote the closing date for PAHO/WHO's call for nominations for the Malaria Champions of the Americas 2015 award, as well as to disseminate two new USAID-funded SIAPS success stories about decentralized technical assistance to improve the supply chain in Peru's Loreto region. The news alert also linked to a new publication co-authored by the CDC, Guyanese and Surinamese researchers about patterns of HRP2 deletions observed in the Guiana Shield countries. An AMI supported Strategic Orientation Document on antimalarial efficacy and resistance monitoring was disseminated once again.
- 3.7. Issued media advisories about the Malaria Champions of the Americas open call for nominations in English and Spanish, as requested by PAHO/WHO. The 2015 call for nominations focused on programs that have contributed to the achievement of the United Nations' Millennium Development Goals (MDGs), particularly MDG #6 related to malaria.
- 3.8. In collaboration with PAHO/WHO, advanced drafts of regional communication tools related to malaria elimination to bridge the information gap prior to the release of an updated regional strategy and action plan for malaria:
 - Fact Sheet: Malaria Control in Low-Incidence Settings
 - Fact Sheet: Malaria Elimination Frequently Asked Questions (FAQs)
 - Resource: Reading List on Malaria Elimination
- 3.9. Participated in a Malaria Zero meeting to design a training curriculum for Haiti's NMCP on the technical aspects of elimination and to confirm the ways in which concepts and terminologies from the WHO's new Global Technical Strategy (GTS) should be applied in the LAC region. Common characteristics between Haiti and Central American countries were highlighted. This participation both informed the development of forthcoming communication tools and increased collaboration between AMI and other regional initiatives.
- 3.10. Links Media submitted applications to the Science of Eradication course to be held in São Paulo, Brazil in September 2015. In attending this course, Links Media will be able to participate actively in dialogue and share valuable information on malaria communication efforts in the region, including important considerations as countries move towards elimination. Links Media will also obtain deeper knowledge of elimination efforts across different technical areas in order to more effectively communicate the evidence base.

Task 4. TA in the design and implementation of dissemination/communication strategies and/or activities provided to USAID and other AMI partners, including annual follow-up of and limited consultancy in the implementation of countries' communication strategies developed through Task 2.

- 4.1. Advised the Brazilian NMCP on the development of a social mobilization strategy for malaria, with a comprehensive technical document focusing on communication theory, practice, and recommendations to address itinerant miners on the border with the Guiana Shield countries, indigenous, and riverine populations in the Amazon.
- 4.2. Received a request from the Colombian MSPS to develop an advocacy document on lessons learned from a recently concluded GFATM project that involved a strong community-level communication component. The goal is to encourage governors and mayors of malaria-endemic areas to appropriate good practices for malaria communication at the decentralized level, contributing to institutionalization and local systems strengthening.
- 4.3. Refined emerging proposals for possible technical assistance in Guyana and Suriname.
- 4.4. In April, May, and June 2015, met with PAHO/Washington to enhance coordination on national malaria communication strategies and harmonize regional public health messaging related to malaria elimination.

Task 5. Provide editorial support to other AMI partners for key dissemination/communication materials.

- 5.1. Edited, translated, and formatted two Spanish-language success stories developed by SIAPS about the outcome of TA provided to a malaria-endemic region of Peru:
 - Certification of the regional medicine warehouse in Loreto, Peru (see Annex 4)
 - Decentralized technical assistance improves antimalarial supply in Loreto, Peru
- 5.2. Exchanged graphic design files with SIAPS to confirm ability to assist the Guatemalan NMCP with graphics and editing services. By quarter's end, execution of work was pending the result of meetings with the NMCP.

Future Activities

Per Links Media's annual work plan, the following activities are proposed for the period July 1 through September 30, 2015:

Reports and Plans

- Prepare a detailed work plan for FY 2016 to be shared with AMI partners before the September Steering Committee Meeting.

Task 1. Design an AMI dissemination/communication strategy, and prepare annual dissemination/communication work plans.

- Completed.

Task 2. Communication strategies designed for each of six Amazon countries (Brazil, Colombia, Ecuador, Guyana, Suriname, Peru), and one communication strategy for the bloc of Central American countries (Belize, Guatemala, Honduras, Nicaragua, and Panama)

- **Central America:** Finalize and format the “Strategic Malaria Communication Guide – Central America” and disseminate it with the help of the NMCPs of Belize, Guatemala, Honduras, Nicaragua and Panama. Hold a virtual meeting to plan implementation of the strategic communication guide with PAHO/WHO facilitation.
- **Ecuador:** Continue to work with Ecuador’s MOH, involving new officials in the process of finalizing the malaria communication strategy in the context of the new health structure.
- **Peru:** Deliver the draft communication strategy focused on national malaria-readiness and improved coordination with regional stakeholders in Loreto. In particular, the strategy will provide guidance on how the MOH can improve coordination with other health actors that are embedded in remote communities affected by malaria. Solicit feedback from the NMCP and make adjustments as needed.
- **Suriname:** Finalize the national communication strategy for malaria with NMCP input.

Task 3. Develop and produce messages, dissemination and communication materials and instruments.

- Complete the following communication products with input from AMI partners:
 - Fact Sheet: Malaria Control in Low-Incidence Settings
 - Fact Sheet: Malaria Elimination FAQs
 - Resource: Reading List on Elimination
- Develop a new communication resource for country NMCPs on the topic of “Public Health Messages on Elimination.”
- Continue research and compilation of partner progress for the initiative-wide annual report for FY 2015.
- Prepare outreach plan for Malaria Day in the Americas 2015.
- Provide targeted social media engagement.

Task 4. TA in the design and implementation of dissemination/communication strategies and/or activities provided to USAID and other AMI partners, including annual follow-up of and limited consultancy in the implementation of countries’ communication strategies developed through Task 2.

- **Colombia:** Collaborate with the Colombian MSPS to complete an advocacy document for department and municipal-level leaders to help institutionalize best practices in

communication, education, and social mobilization from the Global Fund's Colombia Malaria Project.

- **Peru:** Support the SIAPS program to introduce national-level roll out of a new antimalarial medicine presentation, fixed-dose combination therapy.
- **Brazil:** Prepare TA training and collateral for a potential working meeting session on communication/social mobilization focusing on the issue of itinerant miners who leave Brazil to work in countries in the Guiana Shield sub-region of South America. Working meeting tentatively scheduled for the second semester of 2015.
- **Suriname:** Support NMCP to implement communication strategy activities with national decision-makers in Paramaribo, as a complement to activities being funded by the Inter-American Development Bank (IDB) and GFATM.

Task 5. Provide editorial support to other AMI partners for key dissemination/communication materials.

- **Guatemala:** Links Media will assist the SIAPS program to modify and finalize four pictorial documents previously designed as job aids and other materials for community health workers in Guatemala, according to the new national treatment protocol and pharmaceutical supply management guidelines.

Challenges and Solutions

None to report.

Financials

Report on accrued expenditure will be submitted separately.

Environmental Compliance

All activities under the contract fall within those covered by the categorical exclusion as per Environmental Threshold Decision LAC-IEE-11-60.

Annex 1: Quarterly AMI News Bulletin



AMAZON MALARIA INITIATIVE

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Volume 2, Issue 2

Photo: Peruvian Ministry of Health (MINSA)





Highlights from the XIV AMI/RAVREDA Annual Evaluation Meeting in Rio de Janeiro, Brazil

From March 23–26, the XIV Amazon Malaria Initiative (AMI) and Amazon Network for the Surveillance of Antimalarial Drug Resistance (RAVREDA) Evaluation Meeting in Rio de Janeiro, Brazil, brought together representatives from 19 of the 21 endemic countries in Latin America and the Caribbean. Proceedings emphasized achievements and key focus areas moving forward. Major themes included guaranteeing access to prompt, quality diagnosis and treatment in light of the reduced number of cases, the threat of antimalarial drug resistance, quality of essential medicines, vector surveillance and control, and the transition towards elimination.

Populations that work in mining and logging in the Amazon forest and that live in remote and dispersed communities represent higher risk groups for the emergence of resistance to antimalarials, as well as for the persistence of malaria transmission. Detection of individuals with asymptomatic parasitemia poses a particular challenge to health systems in the region, as asymptomatic infections are frequent, are not easily identified with routine microscopy or rapid tests, and may play a role in the persistence of malaria transmission.

The threat of antimalarial drug resistance—both to artemisinin and to partner drugs in the combinations used in many treatment regimens—is a major public health concern. Decreasing parasite sensitivity to treatment has the potential to reverse progress towards elimination and increase health system costs. It is especially concerning in the Guiana Shield sub-region of South America that includes Guyana, Suriname, French Guiana, Brazil, and Venezuela, because this sub-region experiences considerable movement of miners, loggers, and remote and dispersed populations. Recent therapeutic efficacy studies have indicated declining sensitivity to antimalarials in Suriname and French Guiana, but no resistance to artemisinin. In a retrospective review of *P. falciparum* samples from Guyana collected in 2012, mutations were found in the K13 gene associated with resistance to artemisinin, but no mutations were detected among samples collected in 2014. It is recommended that countries use a combination of available tools to continue monitoring the situation, from therapeutic results in patients to genetic markers.

Partners highlighted the need to ensure that ministries of health or regulatory authorities implement corrective actions when poor quality medicines are identified; no information on follow-up was provided after poor quality antimalarials were found in the informal private sector during studies in Colombia and Guyana.

A 2014 *in vivo* trial in the Western Brazilian Amazon showed that the current treatment regimens for *P. vivax* (chloroquine and primaquine) remain efficacious. Given the difficulties



Photo: Links Media

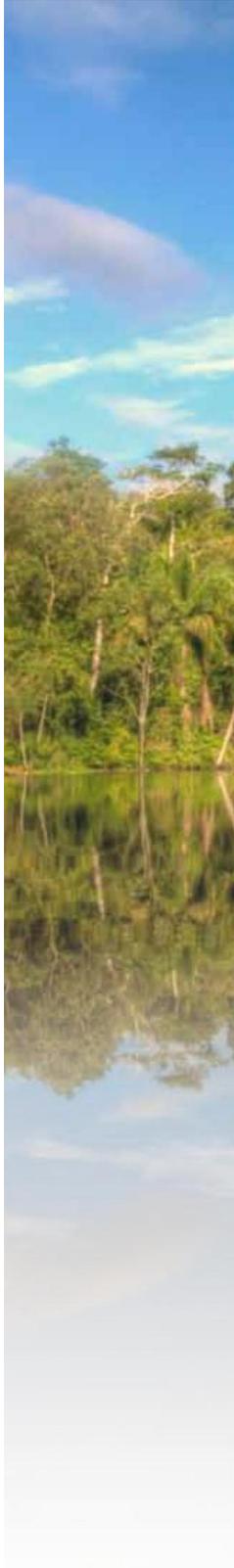


Photo: Suliane Costa Negreiros

associated with *in vivo* studies, other methods should be designed and evaluated to monitor the efficacy of *P. vivax* treatments on an ongoing basis in Brazil and other countries. The regional network for the external assessment of performance in microscopic diagnosis of malaria continues to grow, and now covers national laboratories from 19 countries. The network has detected the need for further improvements in microscopy in many cases, evidencing one of the difficulties in conducting *in vivo* trials.

Where vector control is concerned, the use of evidence-based decision-making is not yet commonplace in public policy. Aside from the prevailing political culture, significant knowledge gaps exist that hinder officials' ability to make evidence-based vector control decisions. The region has limited tools available for vector control, and of those in use, many uncertainties remain as to their acceptability and impact among target populations.

Strong surveillance systems will be needed for countries moving towards pre-elimination and elimination scenarios, in order to quickly detect and respond to all cases and reduce the risk of re-establishment of malaria transmission. Meeting participants received an overview of the epidemiological surveillance systems in El Salvador and the US, as well as of the vector surveillance information systems in Brazil and Colombia. Countries will need to transition from malaria control to a pre-elimination or elimination framework and commit to robust, sustainable health systems that provide a higher level of access and quality of care. The many facets of elimination need to be better understood by health authorities, national malaria program staff, and other malaria stakeholders.

International Partner Highlights

On March 22, 2015, the [Pan American Health Organization \(PAHO/WHO\)](#) facilitated a Malaria Partners Meeting with the participation of AMI/RAVREDA partners and other selected malaria stakeholders from the research and cooperation sectors. PAHO/WHO then led the annual evaluation meeting together with the Brazilian Ministry of Health. PAHO/WHO's Regional Malaria Program has been supporting Brazil, Nicaragua, Colombia, and other AMI countries to plan *in vivo* efficacy studies and maintain their capacity for routine surveillance of efficacy and resistance to antimalarials. PAHO/WHO has also worked to correct critical deficiencies in the antimalarial procurement and distribution process, most recently by coordinating the joint procurement of antimalarial medicines for nine countries and fulfilling urgent requests to help treat drug resistant strains of malaria from outside the region, as well as the donation of treatments for severe malaria cases as requested by some countries. In May 2015, a regional training to improve the quality of microscopic diagnosis is scheduled to occur in coordination with Honduras' National Reference Laboratory, Peru's National Institute of Health, and Mexico's Institute of Epidemiological Diagnosis and Reference for certification of personnel from Southern Cone and Amazon basin countries. The fourth round of External Quality Assurance (EQAP) performance assessments led by PAHO/WHO will further expand the network to over 20 national reference laboratories in the region. In parallel, bench aids for malaria microscopy have been translated into Spanish and distributed to countries. PAHO/WHO provided assistance to Honduras to expand malaria diagnosis to the remote area of La Moskitia using rapid diagnostic tests (RDTs), and together with the US CDC has advised on vector control activities in Guyana. Finally, PAHO/WHO will form a Technical Advisory Group (TAG) to guide the future activities of PAHO's Regional Malaria Program on malaria prevention, control and elimination efforts, including the development of the new Regional Plan for Malaria for 2016–2020 in alignment with the WHO/Global Technical Strategy for malaria (GTS 2016–2030).



Photo: Gracy Obuchowitz

From March 2–6, 2015, AMI partners including USAID, PAHO/WHO, CDC, SIAPS, USP/PQM, and Links Media traveled to Iquitos, Peru as part of an expert consultation meeting coordinated by PAHO/WHO and USAID. The consultation meeting brought together national and local-level partners from a variety of sectors to identify recommendations to be presented to health authorities in order to address the increased number of malaria cases in the region of Loreto.

The **Promoting the Quality of Medicines (PQM)** program implemented by the **US Pharmacopeial Convention (USP)** is working with the medicines regulatory agency in Ecuador to reinstate the three-level approach to medicine quality control that had been used by the malaria program in the past. In Peru, USP/PQM is coordinating with Loreto and Madre de Dios regional health authorities to perform Level 2 analyses on all medicines with Minilab™ methodologies. In addition, in July 2015 an advanced training will be delivered to official medicine control laboratories (OMCLs) in Colombia and Peru to support the development of new analytical methods for medicines not currently included in the Minilabs™. Following the sustainable South–South collaboration mechanism workshop convened by USP/PQM in November 2014, surveillance forms were developed by country representatives and PQM, with which regional OMCLs and medicines regulatory agencies (MRAs) reported their quality assurance and quality control capabilities and needs. PQM is currently developing a Concept Note that will be delivered to countries' ministries of health in May 2015 with workshop conclusions and recommendations. Finally, development of an internet-based application to support Level 1 analyses in the field will start by June 2015; pilot testing of this tool is planned in Colombia and Peru.

Throughout the Americas region, the USAID-funded **Systems for Improved Access to Pharmaceuticals and Services (SIAPS)** program continues to assist countries with low



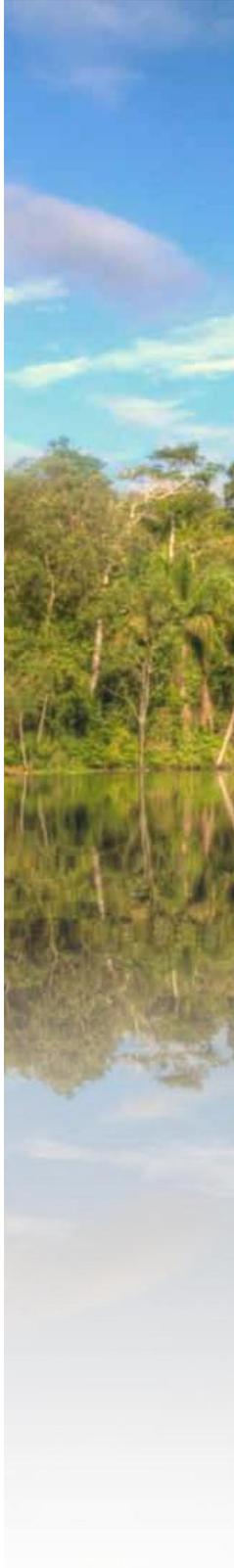
malaria incidence to forecast their needs in order to overcome bottlenecks and maintain adequate antimalarial medicine stocks. As a result of the work done by USAID-funded SIAPS, pharmaceutical supply management criteria have been developed for low-incidence areas for seven countries. The criteria have been institutionalized in Colombia, Brazil, and Nicaragua; Honduras and Nicaragua have considered them in procurement planning. A regional report on the status of antimalarial supply chain management is forthcoming. This report will be based on data collection in seven countries, including the performance of distribution systems, percentage availability versus stockouts, and time to fulfill requests.

Links Media contributed to creating a shared understanding of what is required for malaria elimination by advancing a regional communication strategy for Central America and disseminating technical documents on elimination via the Amazon Malaria Initiative website. In addition, Links Media continues to develop national malaria communication strategies together with ministries of health. This work included a technical visit to assess the communication challenges and needs in response to the increased number of malaria cases in the region of Loreto, Peru in March 2015.

In Guatemala and Honduras, the **US Centers for Disease Control and Prevention (CDC)** has been working with PAHO/WHO and national authorities to characterize insecticide resistance as well as to monitor the efficacy of long-lasting insecticidal bed nets (LLINs) in operational conditions. In Brazil, a field evaluation of RealAMP technology is underway with CDC oversight, and the CDC has begun a new collaborative initiative with the University of São Paulo to assess the malaria burden in pregnant women. Finally, the CDC and scientists from Latin American countries are preparing publications on the first round of collections to assess the frequency of histidine-rich protein II (HRP2) gene deletion in parasite samples from the region, and will conduct the assessment in new areas in some countries.



Photo: PAHO/WHO



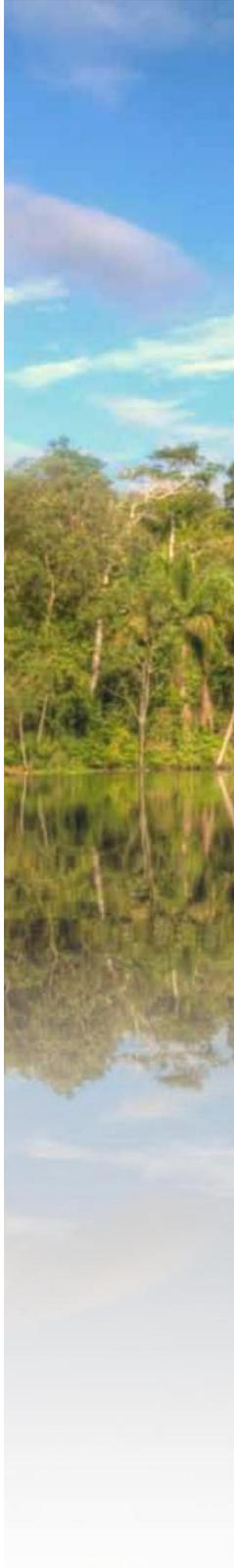
Country Spotlight

- ▶ **Belize** and **Guyana** requested PAHO/WHO assistance with the sampling of antimalarial medicines for quality control.
- ▶ **Brazil's** Ministry of Health hosted the XIV AMI/RAVREDA Annual Evaluation Meeting from March 23–26, 2015 in the city of Rio de Janeiro. A new agreement has been signed with PAHO/WHO and the Federal University of Minas Gerais (UFMG) to monitor antimalarial medicine quality at the third-level of analysis. Brazil is preparing to work towards elimination of *P. falciparum* malaria.
- ▶ **Colombia's** Ministry of Health and Social Protection seeks to establish a national malaria knowledge network that will bring together governmental and non-governmental organizations. PAHO/WHO and other AMI/RAVREDA partners will be involved in the development process. The Colombia Malaria Project, a multi-year project funded by the Global Fund to Fight AIDS, TB and Malaria (GFATM), came to a close in April 2015. The Ministry will take over important functions of the project under its vector-borne diseases division.
- ▶ **Nicaragua** has developed a national malaria surveillance information system for case reporting. The Ministry of Health foresees the need to strengthen diagnosis and treatment mechanisms to ensure that municipalities certified as “free of malaria” are equipped to prevent reintroduction of the disease. In addition, an early warning system for malaria is needed in light of the Tumarín hydroelectric dam project and the Great Interoceanic Canal, the construction of which begins in 2015. Sampling of bed nets for testing of durability and retention of insecticide is ongoing.
- ▶ Co-authors from **Peru, Honduras**, the CDC and the US Naval Medical Research Unit 6 (NAMRU-6) collaborated on the following journal articles:
 - ▶ Novel mutations on the ace-1 gene of the malaria vector *Anopheles albimanus* provide evidence for balancing selection in an area of high insecticide resistance in Peru (*Mal Journal*)
 - ▶ Behavioural responses of females of two anopheline mosquito species to human-occupied, insecticide-treated and untreated bed nets (*Mal Journal*)
 - ▶ Prevalence of pfrp2 and pfrp3 gene deletions in Puerto Lempira, Honduras (*Mal Journal*)
 - ▶ Molecular epidemiology of *Plasmodium falciparum* malaria outbreak, Tumbes, Peru, 2010–2012 (*Emerg Infect Diseases*)
- ▶ In April 2015, implementation of a new grant from GFATM began in **Suriname**. The grant targets malaria transmission among artisanal gold miners.

New AMI Materials Available

- ▶ Fact sheet on the status of antimalarial medicine resistance in Latin America and the Caribbean: [English](#), [Spanish](#), [Portuguese](#)
- ▶ Success story about the expansion of the three-level approach to medicine quality control in Colombia: [English](#), [Spanish](#)
- ▶ AMI brochure: [English](#), [Spanish](#), [Portuguese](#)





Global Malaria News

Regional Coordinating Mechanism Meeting Held in Guatemala

The Technical Advisory Group on HIV, tuberculosis and malaria to the Council of Ministers of Health of Central America and the Dominican Republic (COMISCA) held a regional meeting in Guatemala that brought together civil society representatives and national malaria program coordinators from February 24–26, 2015. After identifying the roles of the main civil society actors in the implementation of the Initiative for the Elimination of Malaria in Mesoamerica and the Island of Hispaniola (EMMIE), a Regional Civil Society League was created. The new Regional Civil Society League will allow for better coordination and participation of civil society in the Regional Coordinating Mechanism (MCR, by its acronym in Spanish). For its part, the MCR for Central America seeks to have a regional strategic plan for malaria elimination approved by member countries in June 2015.

Haiti Malaria Elimination Consortium (HaMEC) Established

Malaria parasite prevalence in Haiti is extremely low, and infection is primarily caused by *P. falciparum* parasites. In February 2015, the Bill and Melinda Gates Foundation announced a grant to the CDC to lead the new Haiti Malaria Elimination Consortium (HaMEC). HaMEC's objective is to eliminate malaria from the island of Hispaniola by 2020. Dr. Keith Carter, Senior Advisor on Malaria and other Communicable Diseases with PAHO/WHO, said, "We laud this expression of solidarity with efforts to eliminate malaria from the only two countries in the Caribbean [Haiti and the Dominican Republic] where transmission still exists." PAHO/WHO, the CDC, and seven other institutions make up the consortium. The new grant is for \$29.9 million over six years; however, a funding gap still exists to meet the estimated \$80 million that is needed to eliminate malaria in Haiti by 2020.

Global Technical Strategy 2016–2030

The World Health Organization (WHO) will release its new Global Technical Strategy (GTS) for the years 2016–2030 as well as Global Malaria Action Plan 2 (GMAP2) in 2015.

Opportunities

Regional Edition of Science of Eradication Course

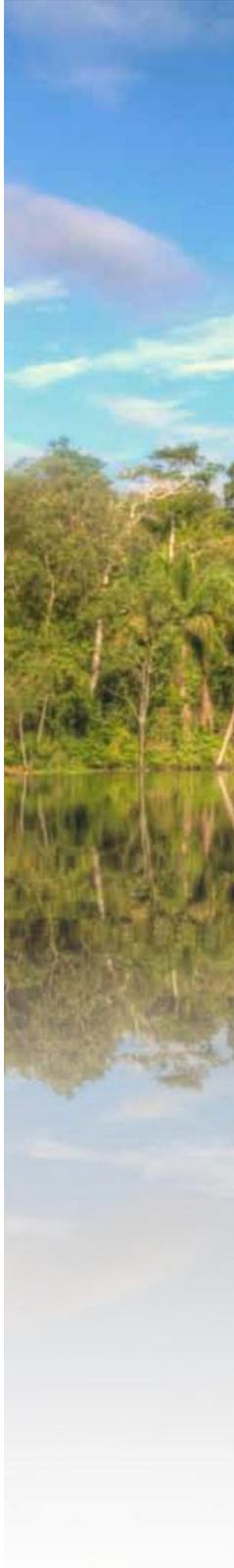
This training and leadership development course in São Paulo, Brazil will provide a multidisciplinary perspective on malaria disease eradication. The course is designed for students at all levels, as well as global public health professionals, those in the private sector, academia, scientists, researchers, malaria control program administrators, and field-based personnel. The course is organized by the University of São Paulo, in partnership with the Barcelona Institute for Global Health (ISGlobal), Harvard University, and the Swiss Tropical and Public Health Institute (Swiss TPH). Applications are due by May 31, 2015: <http://scienceoferadication.org/courses/science-of-eradication-malaria-brazil/overview/>.



Photo: PAHO/WHO

Malaria Champions of the Americas

On April 25, 2015, World Malaria Day PAHO/WHO opened its call for nominations of innovative efforts to fight malaria in the Americas. Finalists in the Malaria Champions of the Americas competition will be selected from a panel of judges and announced in Washington, DC. Full details and nomination forms can be downloaded at <http://bit.ly/2015MalariaChampsAmericas>. Nominations are due by June 22, 2015.



Calendar of Events

April

World Malaria Day,

April 25, 2015. Worldwide.

- ▶ Pre-Symposium Workshop and Celebration of World Malaria Day: Malaria and Pregnancy, Santa Marta, Colombia. April 23, 2015.
- ▶ Fair in Commemoration of World Malaria Day, Escuintla, Guatemala. April 24, 2015.
- ▶ Formal Hand-off of the Colombia Malaria Project, Bogotá, Colombia. April 25, 2015.

May

PAHO/WHO Regional training to improve quality of microscopic diagnosis and certification for participants from South America, Mexico. May 11–22, 2015.

5th International Conference of Research on *Plasmodium Vivax* Malaria, Jimbaran, Bali, Indonesia. May 19–22, 2015.

June

Meeting of the Council of Ministers of Health of Central America and the Dominican Republic (COMISCA), Guatemala City, Guatemala.

Core Course of the Science of Eradication: Malaria, Boston, USA. June 14–19, 2015.

Malaria: Breaking the Cycle (Tools, Strategies, and Implementation) Advanced Module, Boston, USA. June 20–22, 2015.

Follow AMI and join the conversation!



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Amazon Malaria Initiative Group



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AMI's Flickr Page



Instagram.com/AmazonMalaria

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Photo: SUDECC

Beating Malaria 2015,

London, UK June 29–July 1, 2015.

September

AMI/RAVREDA Semi-Annual Steering Committee Meeting, Washington, DC, USA.

Science of Eradication: Malaria Course, São Paulo, Brazil. September 22–October 2, 2015.

October

XIV National Malaria Research Meeting, Sao Paulo, Brazil. October 1–3, 2015.

64th Annual Meeting of the American Society of Tropical Medicine and Hygiene (ASTMH), Philadelphia, USA. October 25–29, 2015.

November

143rd APHA Annual Meeting and Exposition,

Chicago, USA. October 31–November 4, 2015.

Malaria Day in the Americas, Region-wide. November 6, 2015.

December

World Malaria Report 2015 released.

Annex 2: Electronic News Alert Distributed on June 18, 2015

[View this email in your browser](#)



AMAZON MALARIA INITIATIVE





New AMI success stories
The region of Loreto, Peru takes center stage in two new success stories available at the [AMI website](#). AMI technical partners provided decentralized support to the antimalarial medicine supply chain, and helped to obtain certification for Loreto's regional medicines warehouse.

Nuevas historias exitosas AMI
La región de Loreto, Perú es el enfoque de dos nuevas historias exitosas que se encuentran disponibles en el [sitio web de AMI](#). Los socios de AMI brindaron apoyo descentralizado a la gestión del suministro de medicamentos antimaláricos y ayudaron a conseguir la certificación del almacén regional de medicamentos en Loreto.

Novas histórias exitosas AMI
A região de Loreto, Peru é destaque em duas novas histórias exitosas disponíveis no [site de AMI](#). Os parceiros de AMI prestaram apoio descentralizado à cadeia de abastecimento de medicamentos antimaláricos e ajudaram a



Call for nominations for Malaria Champions of the Americas 2015 closing soon!
Monday, June 22, 2015 is the deadline to nominate organizations for the annual Malaria Champions of the Americas competition, in which the Pan American Health Organization (PAHO/WHO) seeks to recognize innovative efforts against malaria. Nomination forms can be found at: <http://bit.ly/2015MalariaChampsAmericas>. Submit your nomination today!

¡Cierra en breve la convocatoria para Campeones contra la Malaria en las Américas 2015!
El día lunes, 22 de junio del 2015, cierra el plazo para nominar organizaciones para el concurso anual de Campeones contra la Malaria en las Américas, en el cual la Organización Panamericana de la Salud (OPS/OMS) busca reconocer esfuerzos innovadores contra la malaria. El formulario para nominar candidatos se encuentra en: <http://bit.ly/2015MalariaChampsAmericas>. ¡Envía tu candidatura ya!

Chamada para indicações ao concurso Campeões

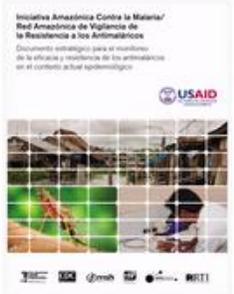


Genetic variations in Guyana and Suriname's *P. falciparum* parasite populations featured in recent PLoSOne article
Researchers from Guyana, Suriname, and the CDC collaborated on molecular analysis of parasite samples to detect deletions of HRP2 and HRP3 genes. Through AMI, similar analyses have been carried out in Peru, Honduras, and Colombia. Read the latest results here (in English only): <http://bit.ly/1H4cpOg>.

Variações genéticas em las poblaciones de parásitos *P. falciparum* en Guyana y Surinam son destacadas en artículo recién publicado en PLoSOne
Investigadores nacionales de Guyana, Surinam y del CDC colaboraron en el análisis molecular de muestras de parásitos para detectar la ausencia de los genes HRP2 y HRP3. A través de AMI, se han realizado análisis similares en el Perú, Honduras y Colombia. Lea los últimos resultados aquí (sólo en inglés): <http://bit.ly/1H4cpOg>.

Variações genéticas em populações de parásitos *P. falciparum* na Guayana e no

Strategic Orientation Document / Documento de Orientación Estratégica Documento de Orientação Estratégica AMI/RAVREDA



Documento estratégico para el monitoreo de la eficacia y resistencia de los antimaláricos en el contexto actual epidemiológico (2011) en español

Answer questions such as:

- What techniques can be used to monitor medicine efficacy in areas with low-incidence of malaria?
- ¿Cuáles son las técnicas que se pueden usar para monitorear la eficacia de los medicamentos en áreas con baja incidencia de malaria?
- Quais são as técnicas que podem ser utilizadas para monitorar a eficácia dos medicamentos em áreas com baixa incidência de malaria?

Annex 3: SciDev.Net Article



Acercar la ciencia al desarrollo mediante noticias y análisis

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Inicio Malaria Noticias



Epidemiología molecular: eficaz ayuda contra la malaria

Crédito de la imagen: OPS

19/06/15

Zoraida Portillo

Republicar

Últimos artículos



Noticias: 14/07/15
Conservar implica mucho más que reducir deforestación



De un vistazo

- Epidemiología molecular permitió identificar origen de cepa que causó un rebrote de malaria
- Se trata de una disciplina que combina información de estudios epidemiológicos con técnicas de laboratorio
- La investigación fue realizada en Perú entre científicos locales y estadounidenses

44

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[LIMA] Combinando información de estudios epidemiológicos con técnicas de laboratorio, la epidemiología molecular es un instrumento fundamental para la caracterización genética de los parásitos que causan la **malaria** —u otras enfermedades transmitidas por vectores— pues ayuda a detectar a tiempo cualquier nueva introducción, permite conocer las características y origen del patógeno y seguirle la pista para un mejor control.

Noticias: 13/07/15
Herramienta de predicción climática muestra su eficacia
Herramienta alerta sobre sequías con 3 a 6 meses de anticipación y es usada ya por 23 países del Caribe.

Cambio climático TIC Medio ambiente

Noticias: 10/07/15
Nicaragua: exoneraciones fiscales para energías renovables
Reforma a ley que promueve generación eléctrica con fuentes renovables extiende por 3 años incentivos a inversores.

Energía Gobernanza Política

Annex 4: Success Story

SIAPS Certification of the Regional Medicines Warehouse in Loreto (Peru)

Historia de éxito

Certificación del almacén regional de medicamentos en Loreto (Perú)¹



Personal que logró la certificación, liderados por el Dr. Yuri Cabello, director de DIREMID, y la QF Ivonne Navarro.

Antecedentes

La región Loreto, ubicada en la zona nororiental del Perú, es la más extensa del país. Por su territorio discurre una red de ríos que confluyen en la gran cuenca del Amazonas. Loreto se caracteriza por una baja densidad poblacional donde el 45% de la población de poco más de un millón de habitantes vive en zonas rurales.² Existen 19 etnias indígenas en la región. Su clima cálido, húmedo y lluvioso llega a registrar temperaturas máximas de 36,8°C entre Octubre y Enero y una humedad relativa de 84%.

La Dirección Regional de Salud de Loreto cuenta con una red de 374 establecimientos de salud de primer nivel de atención y tres hospitales, a los que la Dirección Regional de Medicamentos, Insumos y Drogas (DIREMID) distribuye medicamentos y suministros desde un almacén regional, que funciona desde el 2004 en un ambiente construido para fines de vivienda en el que se han efectuado algunas modificaciones.

Una evaluación realizada por SIAPS, en el marco de la Iniciativa Amazónica de Malaria (AMI), financiada por USAID, en Mayo de 2012³ reveló que el almacén regional cumplía con solo el 56% (49/88) de las exigencias de las Buenas Prácticas de Almacenamiento (BPA).⁴ Esto significaba que persistían deficiencias en las condiciones de almacenamiento pese a los esfuerzos de la DIREMID. Entre las deficiencias encontradas destacaban: a) insuficiente capacidad de almacenamiento; b) falta de organización de áreas internas; c) ausencia de procedimiento operativos y normas de capacitación, organización y funciones; d) personal no entrenado; e) prácticas de trabajo

no estandarizadas e inseguras para el personal, y f) insuficiente e inadecuado equipamiento y materiales.

Intervenciones

En los meses posteriores a la evaluación, SIAPS prestó asistencia técnica para mejorar las condiciones y prácticas en el almacén regional, mediante la ejecución de un plan de trabajo que demandó una inversión aproximada de USD 13,557 de recursos de la AMI.



¹ Asistencia técnica prestada por Henry Espinoza, Senior Technical Advisor, y Edgar Barillas, Portfolio Manager.

² Perú: La población proyectada es de 1,028,968 habitantes, según departamento al 30 de Junio de 2014. Fuente: INEI - Perú: Estimaciones y Proyecciones de Población por Sexo, Según Departamento, Provincia y Distrito, 2000 - 2015 - Boletín Especial N° 18.

³ Espinoza, Henry. 2012. *Evaluación del suministro de medicamentos, insumos y reactivos de laboratorio para el control de la malaria en la DIRESA Loreto, Perú – Línea de Base*. Presentado a la Agencia de los Estados Unidos para el Desarrollo Internacional por el Programa Systems for Improved Access to Pharmaceuticals and Services (SIAPS). Arlington, VA: Management Sciences for Health.

⁴ Resolución Ministerial N° 585-99-SA/DM aprueba Manual de Buenas Prácticas de Almacenamiento de Productos Farmacéuticos y Afines.

Las actividades incluyeron:

1. El desarrollo, validación e implementación de un manual de procedimientos operativos, normas de capacitación, normas de seguridad y manual de organización y funciones.
2. El adiestramiento al personal en las operaciones del almacén mediante el desarrollo de pasantías en un almacén certificado y capacitación para la implementación de los procedimientos y normas.
3. Supervisión de la adherencia a las BPA y adopción de medidas correctivas.

Por su parte, la DIREMID invirtió de USD 101,028 en: La ampliación de la capacidad de almacenamiento, la mejora de la organización interna, la optimización de la climatización y la dotación de equipos y materiales de trabajo que faciliten las operaciones y brinden mayor seguridad a las personas y los productos. Cabe resaltar que esta inversión fue siete veces mayor que el valor de la asistencia técnica proporcionada por USAID/SIAPS.



Resultado

En Diciembre de 2014 la Dirección General de Medicamentos, Insumos y Drogas inspeccionó el almacén regional de Loreto y le otorgó la Certificación en Buenas Prácticas de Almacenamiento por cumplir con el 100% de las exigencias. Este almacén especializado es apenas el segundo que es certificado en todo el país.

Ver también: [Historia de éxito: Asistencia técnica descentralizada de la Iniciativa Amazónica contra la Malaria mejora la gestión del suministro de medicamentos antimaláricos en Loreto, Perú](#)

Success Story

Certification of the regional medicines warehouse in Loreto (Peru)¹



Loreto, and Chemist-Pharmacist Ivonne Navarro.

Background Information

Loreto, in northeastern Peru, is the country's largest region. Traversing the region is a vast network of rivers that empty into the Amazon River Basin. Loreto is characterized by a low population density with 45% of its slightly more than one million inhabitants residing in rural areas.² There are 19 indigenous ethnicities in the region. It has a hot, humid, and rainy climate with high temperatures reaching 98°F from October to January and 84% humidity.

The Loreto Regional Health Directorate (*Dirección Regional de Salud, DIRESA*) relies on a network of 374 primary-level health care facilities and three hospitals. Since 2004, medicines and other supplies for malaria control have been distributed to these facilities by the Regional Directorate of Medicines, Supplies and Drugs (*Dirección Regional de Medicamentos, Insumos y Drogas, DIREMID*) from a space that was originally built as a private home and had been modified to serve as a regional warehouse.

An assessment carried out by USAID-funded SIAPS through the Amazon Malaria Initiative (AMI) in May 2012³ revealed that the storehouse met only 56% (49/88) of the requirements of the national Good Storage Practices regulations (BPA, by its Spanish acronym).⁴ This meant that conditions were still deficient, despite DIREMID's efforts. Some of the main problems included: a) insufficient storage capacity; b) lack of organization within indoor areas; c) absence of standard operating procedures and norms for training, organization, and job descriptions; d) untrained staff; e) non-standard work practices that were unsafe for staff, and f) insufficient and inadequate equipment and materials.

Interventions

In the months following the assessment, SIAPS provided technical assistance to improve the conditions and practices in the regional warehouse, though the implementation of a work plan that required an investment of approximately USD 13,557 of AMI resources.



¹ Technical assistance provided by Henry Espinoza, Senior Technical Advisor, and Edgar Barillas, Portfolio Manager.

² Peru: The projected population is 1,028,968, according to the region on June 30, 2014. Source: National Institute of Statistics and Informatics (INEI) - Peru: Population Estimates and Projections by Sex, according to Region, Province, and District, 2000 - 2015 - Special Bulletin N° 18.

³ Espinoza, Henry. 2012. Baseline assessment of the supply of medicines, materials, and laboratory reagents for malaria control in DIRESA-Loreto, Peru (*Evaluación del suministro de medicamentos, insumos y reactivos de laboratorio para el control de la malaria en la DIRESA Loreto, Perú – Línea de Base*). Submitted to the United States Agency for International Development by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program. Arlington, VA: Management Sciences for Health.

⁴ Ministerial Resolution N° 585-99-SA/DM approving the Manual of Good Practices for the Storage of Pharmaceutical Products and Related Supplies.

Activities included:

4. Development, validation, and implementation of a standard operating procedures manual, training guidelines, security guidelines, and a manual with organization and job descriptions.
5. Training of staff on warehouse operations through the creation of apprenticeships at a certified warehouse and training on the implementation of procedures and guidelines.
6. Supervision of adherence to the BPA regulations and adoption of corrective measures.

For its part, DIREMID invested USD 101,028 towards expansion of the storage capacity, improvements to organization within the warehouse, optimization of climate control, and the provision of work equipment and material to facilitate operations and ensure greater safety for people and products. It is important to note that this investment was seven times greater than that provided in technical assistance by USAID/SIAPS.



Impact

In December 2014, the General Directorate of Medicines, Supplies and Drugs inspected the regional warehouse in Loreto and gave it a Certificate of Good Storage Practices for complying with 100% of the requirements. Loreto's specialized warehouse is only the second warehouse that has been certified in the whole country.

See also: [Success Story: Decentralized technical assistance from the Amazon Malaria Initiative improves antimalarial supply management in Loreto, Peru](#)