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PLAN OF ACTION FOR MALARIA ELIMINATION 2016-2020

Introduction

1. In 2011, the 51st Directing Council of the Pan American Health Organization (PAHO) approved Resolution CD51.R9 (1), which formalized the adoption of the Strategy and Plan of Action for Malaria in the Americas 2011-2015 (2). The resolution requested that the Director support the execution of the strategy and the plan of action and provide technical cooperation to countries in developing and executing national plans of action towards the achievement of global malaria targets, including those outlined in the 2015 United Nations Millennium Development Goals (MDGs) (3).

2. This document presents an overview of the Region's progress vis-à-vis CD51.R9, particularly in terms of achieving the 2015 MDGs related to malaria. More importantly, it stipulates the Region's targets and commitments for the next five years in terms of eliminating local malaria transmission in endemic countries and territories and clarifies the components of an updated plan that addresses evolving challenges in the context of decreased malaria transmission, growing interest and progress in malaria elimination, and the need to prevent potential reestablishment of the disease. It also presents a framework for reinforced integration of cross-cutting issues, including gender, ethnicity, human rights, and equity, towards the achievement of universal health coverage.

Background

3. The Region's efforts and the work done by PAHO on malaria are guided by the Strategic Plan of the Pan American Health Organization 2014-2019 (4) and the commitment to meet existing global, regional, and country targets including the Global Technical Strategy (GTS) for Malaria 2016-2030 (5), Action and Investment to Defeat Malaria 2016-2030 (AIM) (6), WHO's *Plasmodium vivax* technical briefs (7), and the UN Sustainable Development Goals (SDGs) (8). Current important mandates from the PAHO Directing Council, including CD53/5 [2014] (Strategy for Universal Access to Health and Universal Health Coverage) (9), CD49/9 [2009] (Elimination of Neglected Diseases and Other Poverty-related Infections) (10), CD49/10 [2009] (Policy on

Research for Health) (11), and CD48/13 [2008] (Integrated Vector Management: A Comprehensive Response to Vector-borne Diseases) (12), provide additional guidance.

4. As of 2014, the concerted efforts mounted by countries and collaborating institutions within the framework outlined in the Strategy and Plan of Action for Malaria in the Americas 2011-2015 had contributed to a 67% reduction in malaria morbidity in the Region since 2000, a 79% reduction in disease-related deaths, and the achievement of the MDG malaria targets in 14 malaria-endemic countries, with five others also reporting significant case reductions. Currently, 18 of the Region's 21 malaria-endemic countries have expressed commitment towards malaria elimination.

Situation Analysis

5. The Region reported a total of 389,390 confirmed cases of malaria in 2014, a reduction (as noted) of 67% compared with 2000, and 87 deaths in that year, a decrease of 79% relative to the 2000 baseline. Approximately 69% of infections are caused by *Plasmodium vivax*, 24% by *Plasmodium falciparum*, and less than 0.1% by *Plasmodium malariae* (mostly reported from French Guiana, Guyana, and Venezuela) (13). The malaria parasite species that caused the infection were not reported in approximately 7% of cases.

6. Nineteen of the 21 malaria-endemic countries in the Region saw a decrease in cases in 2014 relative to 2000. Fourteen of these countries (Argentina, Belize, Bolivia, Brazil, Costa Rica, Ecuador, El Salvador, French Guiana, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, and Suriname) reported reductions of more than 75%, thereby meeting the MDGs pertaining to malaria. Two countries (Colombia and the Dominican Republic) reported decreases of 50% to 75%, while three others (Guyana, Panama, and Peru), with reductions below 50%, are making progress. On the other hand, two countries (Haiti and Venezuela) continue to report increases in their total number of cases (13).

7. Between 2000 and 2014, the 27 Member States and territories declared free of malaria transmission by WHO in previous years reported approximately 2,000 cases annually on average, mostly among travelers from endemic countries. Many outbreaks have been reported in endemic countries in recent years, particularly in Brazil, Guyana, Haiti, Peru, and Venezuela, and have contributed to increased cases across specific years. Likewise, an increased number of imported cases have been reported in non-endemic territories such as Puerto Rico. Most have been promptly controlled through effective action by national authorities in collaboration with PAHO and other international agencies.

8. Populations living in areas of the Amazon continue to be at the highest risk of malaria infection. In 2014, the top 20 municipalities according to burden of disease in the Amazon subregion consisted of 10 municipalities in Brazil, one in Colombia, four in Peru, and five in Venezuela, together accounting for 44% of the total number of cases in the Region of the Americas. In the Mesoamerican subregion, the greatest malaria burden

is found in six municipalities of Guatemala, eight in Honduras, one in Mexico, three in Nicaragua, and two in Panama, accounting for 67% of total cases in that subregion. In Hispaniola, all of the top 20 municipalities with a high burden of malaria were in Haiti.

9. Many of the affected high-burden municipalities are inhabited mostly by populations living in situations of vulnerability. Panama reports that 68% of total cases occur among indigenous populations, Guatemala 66%, and Nicaragua up to 47%. Brazil, Colombia, Honduras, Suriname, and Venezuela report that up to 25% of their malaria cases occur among ethnic groups, and Guyana reports a total of 25% to 50%. The population of migrants from Haiti represents 37% of the total cases in the Dominican Republic, and the country has identified this group as vulnerable. Afro-descendant groups account for 25% to 50% of cases in Colombia.

10. Although people of all age groups are affected, those 15 to 49 years of age, or the most economically productive ages of life, constitute the majority of diagnosed cases in the Region. It is noteworthy that the incidence rate was higher in those under 5 years old in Haiti, while in some other countries it is the 5-14 years old age group who have had the highest reported incidence. Overall, men are at higher risk of contracting malaria than women in all endemic countries of the Region. Urban malaria is reported in Belize, Bolivia, Brazil, Colombia, the Dominican Republic, Ecuador, Nicaragua, and Venezuela. Cases of malaria among women in child-bearing age are estimated to account for as many as 10% of total cases in some countries. Mobile populations (miners, migrants, laborers) have also been identified as high-risk groups. Cases reported among miners from Brazil (6% of the country's total), Colombia (3%), Suriname (71%), and Venezuela (47%) represent a challenge for the Region.

11. Overall, malaria funding in the Region plateaued in 2011 and decreased in 2014 although the decrease is attributable to the lack of data reported from some countries. Domestic funding for countries' malaria efforts has increased, and in 2013 such funding amounted to approximately US\$ 189 million in the Region. This remains the primary source of malaria funding in the Americas. The Global Fund's investments and commitments related to malaria projects in the Region (14) declined in 2014, primarily as a result of revised eligibility criteria. Currently, only Bolivia, El Salvador, Guatemala, Guyana, Haiti, Honduras, Nicaragua, Paraguay, and Suriname are eligible for malaria funding under the new funding model. Subject to satisfactory achievement of malaria elimination targets, Mesoamerican countries are also eligible to receive "incentive funding" of approximately US\$ 600,000 annually for 2015 and 2016 under the Elimination of Malaria in Mesoamerica and the Island of Hispaniola (EMMIE) initiative.

12. Modest but high-yielding investments from the United States Agency for International Development (USAID) are directed to the Region through the Amazon Malaria Initiative/Amazon Network for the Surveillance of Antimalarial Drug Resistance (AMI/RAVREDA) to address critical gaps (15); in addition, the Bill and Melinda Gates Foundation recently launched and committed funding to Malaria Zero, a network that aims to eliminate malaria in Haiti and the Dominican Republic. The Mexican Agency for International Cooperation and Development (AMEXCID) is likewise exploring

mechanisms to support countries through the development of the Mesoamerican Plan for Malaria among Populations in Situations of Vulnerability.

13. Effective use of best practices has been demonstrated and documented in at least 10 countries through the Malaria Champions of the Americas initiative (16) as well as AMI/RAVREDA (14), EMMIE, and Malaria Zero.

14. Significant advances in the progress of malaria efforts within the Region, particularly in terms of diagnosis, treatment, and surveillance, have been achieved and have contributed to increased interest in and accelerated efforts towards eliminating malaria; as noted, 18 endemic countries (Argentina, Belize, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Dominican Republic, El Salvador, Guatemala, Guyana, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, and Suriname) have expressed commitment towards malaria elimination. Details on the Region's progress in terms of the indicators in the Strategy and Plan of Action for Malaria in the Americas 2011-2015 are presented in the updated strategic lines of the new Plan of Action as baseline.

15. The continuing decline in malaria cases and deaths affirms the Region's progress in combating the disease. However, the reduction in the number of cases in most malaria-endemic countries likewise ushers in a unique set of important and evolving challenges for the Region. These include:

- a) the need for strengthened coordination among all partners and stakeholders in redoubling efforts to foster timely and universal access to sustainable good-quality evidence-based interventions and health systems arrangements;
- b) the need to review and update malaria policies and strategic frameworks to reflect work carried out in the Region vis-à-vis the global paradigm change reflected in the GTS according to which all countries can accelerate efforts towards elimination through interventions tailored to local contexts (5);
- c) the need for sustained and strengthened surveillance at all levels of the health system to detect malaria threats and trigger appropriate responses with minimal delay, as well as monitoring and early detection of resistance to antimalarial medicines and insecticides;
- d) the need to sustain the commitments of stakeholders and translate them to resources that are actually invested towards malaria elimination efforts;
- e) the need to address relevant social, economic, climate and environmental factors, knowledge gaps, contextual specificities, and preparation for the end game and beyond.

Plan of Action (2016-2020)

16. The purpose of this Plan of Action is to continue the Region's advancement towards the elimination of local malaria transmission among its Member States and prevent the possible reestablishment of the disease. Through a process initiated at the

PAHO Regional Consultations on the GTS and AIM in April 2014, followed by consultations with partners and stakeholders through multiple country visits and technical meetings and the subsequent October 2015 Regional Consultation on the Development of the Plan of Action for Malaria Elimination 2016-2020, the Region commits to the following list of targets for the 2016-2020 period:

- a) further reduction of malaria morbidity by 40% or more (based on 2015 official figures);
- b) further reduction of malaria-related deaths by 40% or more (based on 2015 official figures);
- c) implementation of efforts to eliminate malaria in 18 of the 21 endemic countries and attainment of malaria-free status in at least four countries;
- d) implementation of innovative approaches to address challenges in countries where progress has been limited;
- e) prevention of the reestablishment of malaria in countries that have been declared malaria-free.

17. Building upon the same pillars and supporting elements of the GTS, the Region has outlined the following strategic lines of action as key components of the Plan of Action for Malaria Elimination 2016-2020.

Strategic Lines of Action

Strategic Line of Action 1: Universal access to good-quality malaria prevention interventions, integrated vector management, and malaria diagnosis and treatment

18. Universal diagnosis and prompt effective treatment of malaria at public and private health facilities and at the community level, along with complementary prevention strategies based on vector control, are crucial to further reducing the malaria burden, decreasing rates of transmission, and preventing reintroduction of the disease. Countries of the Region also mandate the implementation of integrated vector management (IVM) which is essential in the control and elimination of vector-borne diseases such as malaria; IVM advocates the use of vector control methods based on local epidemiological and entomological data.

Objective	Indicator	Baseline (2015)	Target (2020)
1.1 Reinforce country capacity in terms of access to and compliance with malaria prevention and case management	1.1.1 Number of Member States and territories implementing malaria prevention and case management efforts	33	51 ^a

^a Total number of countries and territories in the Region.

Objective	Indicator	Baseline (2015)	Target (2020)
interventions through effective supply chain management, information, education, and communication efforts, among others			
1.2 Reinforce country capacity to address specific vector management problems, including monitoring of insecticide resistance	1.2.1 Number of countries (both malaria endemic and non-endemic) that are implementing integrated vector management based on PAHO/WHO guidelines (including insecticide resistance surveillance, and vector behavior studies)	15	18
1.3 Enhance institutional, network, and country readiness to perform and manage appropriate and adequate malaria diagnosis and treatment in various program contexts	1.3.1 Number of malaria-endemic countries reporting malaria drug efficacy and drug resistance surveillance data to PAHO, as per PAHO/WHO guidelines	14	17
	1.3.2 Number of countries implementing PAHO/WHO guidelines for quality malaria diagnosis and treatment	23	51

Strategic Line of Action 2: Reinforced malaria surveillance towards evidence-based decision making and response

19. An effective malaria surveillance system is required in all malaria-endemic countries and those that are susceptible to the reestablishment of local transmission. More importantly, surveillance data are of fundamental importance in planning and implementation and provide crucial guidance for decision making.

Objective	Indicator	Baseline (2015)	Target (2020)
2.1 Further improve surveillance systems with early detection of cases and outbreaks and advocate collection of malaria data (by case, including information on age, sex, ethnicity, and other variables that facilitate appropriate	2.1.1 Number of countries reporting malaria surveillance data annually to PAHO/WHO, by subnational level, sex, age, and other equity-related variables ^b	27	51

^b Place of residence, race/ethnicity/culture/language, occupation, religion, education, socioeconomic status, social capital, and other possible factors such as disease status or disability.

Objective	Indicator	Baseline (2015)	Target (2020)
analysis of disparities and inequalities between populations)			
2.2 Strengthen and improve data informed decision making through epidemiological information exchange at all levels: regional, between countries with common borders, and within the countries themselves	2.2.1 Number of malaria-endemic countries exhibiting strengthened data informed decision-making (based on the PAHO malaria data verification tool), and sharing epidemiological information	0	21

Strategic Line of Action 3: Strengthened health systems, strategic planning, monitoring and evaluation, operational research, and country-level capacity building

20. While a clear and sufficient focus should be maintained on malaria-specific targets and deliverables, it should be ensured that efforts contribute to country-level capacity building and to strengthening the health system, particularly in terms of (but not limited to) strategic planning, monitoring and evaluation, and operational research.

Objective	Indicator	Baseline (2015)	Target (2020)
3.1 Improve recruitment, training, and retention of health personnel trained in malaria in country health systems and within PAHO/WHO to facilitate relevant technical cooperation at various levels of work (regional, inter-country, and intra-country) and program (particularly malaria elimination) contexts	3.1.1 Number of countries implementing plans for training health personnel on malaria	21	33
3.2 Reinforce malaria policy development and strategic planning in collaboration with countries and stakeholders	3.2.1 Number of countries with national strategic plans (focusing on/ including malaria) that align with WHO-recommended strategies and components of the PAHO Plan of Action for Malaria	31	51

Objective	Indicator	Baseline (2015)	Target (2020)
3.3 Strengthen the capacity of national programs in the areas of management and logistics in collaboration with partners and stakeholders	3.3.1 Number of malaria-endemic countries with no stock-outs of key malaria supplies (including anti-malarials) at the national level in a given year	19	21
3.4 Develop financial strategies to sustain malaria prevention and elimination efforts at different levels in collaboration and synergy with partners and stakeholders	3.4.1 Number of countries with sustained domestic funding for malaria efforts	20	51
3.5 Reinforce operations research in program development and management	3.5.1 Number of countries conducting malaria operational research, including IVM topics	13	21

Strategic Line of Action 4: Strategic advocacy, communications, and partnerships and collaborations

21. As countries reduce their malaria burden and move closer to malaria elimination, the importance of maintaining strong strategic advocacy, communications, and partnerships and collaborations becomes even more pronounced with respect to proactively addressing the historical tendency towards weakening of stakeholder commitment as cases continue to decline.

Objective	Indicator	Baseline (2015)	Target (2020)
4.1 Support the development and strengthening of capacities through existing malaria networks, partnerships, and collaborations in the Region	4.1.1 Number of countries participating in regional-level networks and collaborations	19	42
4.2 Optimize opportunities for coordination, synergy, and information sharing with other existing PAHO/WHO initiatives	4.2.1 Number of countries engaged in inter-programmatic and/or synergistic actions advocated under PAHO/WHO initiatives and policies	18	26

Objective	Indicator	Baseline (2015)	Target (2020)
(e.g., integration of malaria efforts with maternal and child health in community and local health care programs, communications and social mobilization, health promotion and education interventions, programs on neglected diseases, and occupational health) and policies			
4.3 Strengthen and support efforts to identify, document, and replicate best practices, including models of disease elimination and successful integration of cross-cutting issues	4.3.1 Number of countries with identified best practices in their malaria activities	13	15

Strategic Line of Action 5: Focused efforts and tailored approaches to facilitate malaria elimination and prevent reestablishment in malaria-free areas

22. In addition to focusing on universal access to core interventions and technical areas of work that enable optimal achievement of targets and sustainability of efforts, malaria elimination and prevention of reestablishment need to be implemented as a scientific problem-solving process that takes into account specificities in context and the potential need for tailored approaches.

Objective	Indicator	Baseline (2015)	Target (2020)
5.1 Resolve critical gaps in key target populations ^c in relation to the achievement of malaria elimination goals	5.1.1 Number of countries implementing strategies to address malaria among populations in situations of vulnerability	10	18

^c For example, pregnant women, children, persons living with HIV/AIDS, travelers, mobile populations, miners, loggers, banana and sugar cane plantation workers, indigenous groups, populations in areas of armed and/or social conflict, and people living in border areas or areas of common epidemiological interest.

Objective	Indicator	Baseline (2015)	Target (2020)
5.2 Address critical knowledge and technical gaps, including those pertaining to <i>P. vivax</i> and the preparation for end-game scenarios	5.2.1 Number of countries implementing the 2015 WHO <i>P. vivax</i> recommendations	0	16
5.3 Implement the process of malaria program reorientation towards malaria elimination and certification (as may be requested by Member States)	5.3.1 Number of countries supported in terms of malaria program reorientation towards malaria elimination	10	18
5.4 Sustain key capacities in countries that have eliminated local malaria transmission	5.4.1 Number of non-endemic countries supported in terms of maintaining key malaria capacities	9	17

Monitoring and Evaluation

23. This Plan of Action contributes to the achievement of impact goals 6 (reduce mortality due to communicable diseases) and 8 (eliminate priority communicable diseases in the Region) of PAHO's Strategic Plan (4) and aligns accordingly with technical guidelines and documents developed and consolidated by the WHO Global Malaria Program, the PAHO Regional Malaria Program and country offices, and various technical partners. The monitoring and evaluation of this Plan will be aligned with the Organization's results-based management framework as well as its performance monitoring and assessment processes. In this regard, progress reports will be developed based on information available at the end of each year, which will be presented annually to the PAHO executive management; in addition, a mid-term report will be presented to the Governing Bodies. With a view to determining the strengths and weaknesses of the overall implementation, causal factors of successes and failures, and future actions, a final evaluation will be conducted during the last year of the plan's implementation.

24. The baselines and targets for the indicators outlined in the strategic components section of the Plan are subject to agreement between the countries and other stakeholders. PAHO uses annual information shared by the countries through the PAHO/WHO malaria reporting system to assess the progress of activities. PAHO will also engage actively in developing a consensus between national and international stakeholders in assessing and monitoring important indicators in various malaria program contexts.

Financial Implications

25. Approximately US\$ 30 million, or an average of US\$ 6 million per year, needs to be invested in PAHO technical cooperation on malaria over the period 2016-2020. This level of investment is essential in order for the institution to respond relevantly in its role of bridging gaps through technical cooperation and facilitating collaborations between countries and stakeholders in addressing the challenges of this disease that knows no borders. Current programmed activities cover all components of the strategy but cannot be scaled up unless additional resources are made available. Increasing the scale of efforts and financial support will enhance work towards elimination and optimize achievement of targets and desired results.

26. Also, it must be noted that malaria elimination will entail sizable domestic and external resources as the focus shifts away from large-scale interventions and large numbers of cases to high-quality efforts to thoroughly deal with fewer cases and ultimately maintain zero occurrence of locally transmitted malaria cases.

Action by the Directing Council

27. The Directing Council is requested to review the Plan of Action for Malaria Elimination and consider approval and endorsement of the corresponding proposed resolution (Annex B).

Annexes

References

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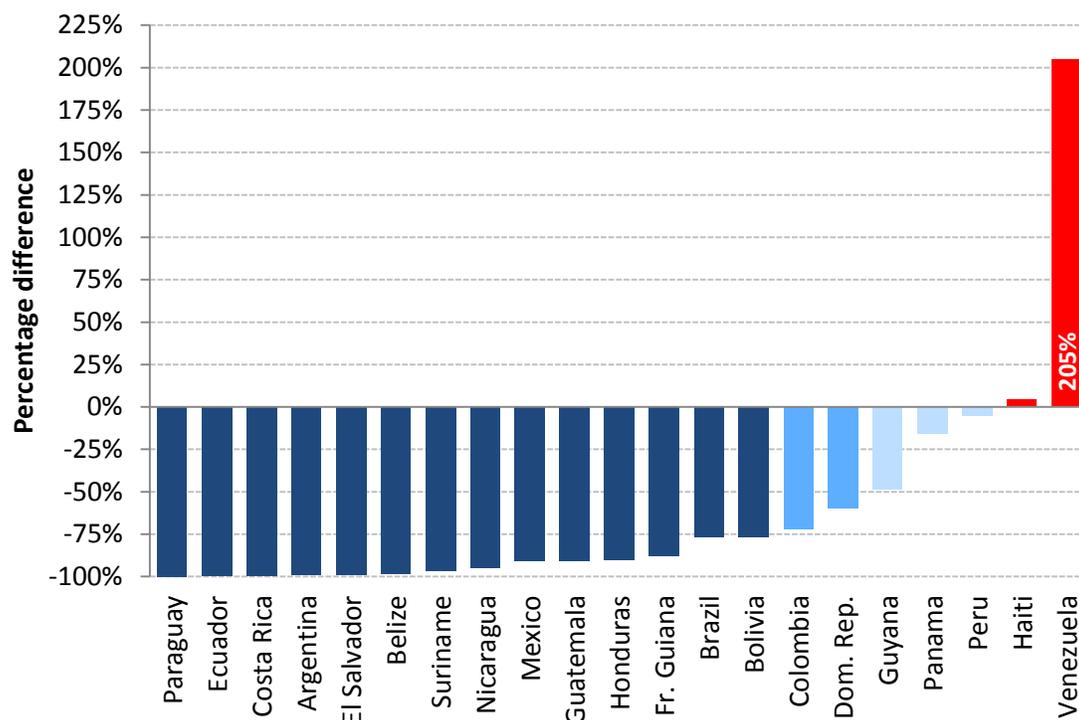
Annex A

Provisional Report on the Implementation of the Strategy and Plan of Action for Malaria in the Americas 2011-2015 (Resolution CD51.R9)

Progress of Efforts in Relation to Targets/Impact Indicators:

1. Further reduction of malaria morbidity by 75%, as called for by WHA58.2 (2005).
 - a) 389,390 confirmed cases of malaria in 2014; reduction of 67% compared with 2000.
 - b) These figures indicate “on track” achievement of targets as of 2014, although the final assessment will be completed once 2015 data are received from the countries.

Percentage Difference in Malaria by Country, Cases in 2014 Compared with 2000 Baseline



2. Further reduction of malaria-related deaths by 25%.
 - a) 87 deaths in 2014, or a decrease of 79% relative to the 2000 baseline.

3. Implementation of efforts to eliminate malaria in areas deemed feasible (particularly Mesoamerica and the Southern Cone).

a) Significant advances in the progress of malaria efforts within the Region, particularly in terms of diagnosis, treatment, and surveillance, have been achieved and have contributed to increased interest in and accelerated efforts towards eliminating malaria, with 18 endemic countries (representing Mesoamerica, the Southern Cone, and part of the Amazon) expressing commitment towards malaria elimination.

4. Reversal of the trend in countries that saw an increased number of malaria cases between 2000 and 2010 (particularly the Dominican Republic, Haiti, and Venezuela).

a) The Dominican Republic made excellent progress, even earning the distinction of top Malaria Champion of the Americas in 2014.

b) Haiti is in the process of strengthening its malaria surveillance system as part of its ongoing malaria elimination efforts, which seem to account for the slight increase in cases due to better case detection.

c) Venezuela remains heavily challenged in terms of malaria burden, particularly in the state of Bolivar.

Assessment of Indicators According to the Goals of the Plan of Action (2011-2015)

Goal 1: Intensify efforts directed toward malaria prevention, surveillance, early detection, and outbreak containment in various program contexts.

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
1.1	Number of Member States implementing malaria prevention efforts	28	33	Fully achieved	Achieved in 33 countries and territories: ABW, ARG, BHS, BLZ, BOL, BRA, BRB, CAN, COL, CRI, CUB, CUW, DOM, ECU, GLP, GUF, GTM, GUY, HTI, HND, JAM, MEX, MTQ, NIC, PAN, PRY, PER, SLV, SUR, SXM, TTO, USA and VEN
1.2	Number of countries reporting malaria surveillance data annually to	21	21	Fully achieved	Achieved in 21 countries and territories: ARG, BLZ, BOL, BRA, COL,

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
	PAHO/WHO, by identified transmission units and by sex and age				CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, SUR, VEN, and GUF
1.3	Number of malaria-endemic countries with common border areas that share epidemiological information and collaborate on prevention, control, and/or elimination efforts	21	21	Fully achieved	Achieved in 21 countries and territories: ARG, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, SUR, VEN, and GUF
1.4	Number of countries that meet International Health Regulations (IHR) core capacity requirements for outbreak investigation and response	0	35	TBD	Achieved in 21 countries and territories: ARG, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, SUR, VEN, and GUF
1.5	Number of countries that use the standardized PAHO/WHO methodology for case investigation	21	25	Fully achieved	Achieved in 25 countries and territories: ARG, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HND, MEX, NIC, PAN, PRY, PER, SUR, VEN, GUF, BHS, BRB, JAM, USA, and TTO
1.6	Number of countries documenting and implementing a research agenda that focuses on malaria prevention, surveillance, early detection, and outbreak containment	13	17	Fully achieved	Achieved in 17 countries and territories: BLZ, BOL, BRA, COL, CRI, ECU, GTM, GUY, HND, NIC, PAN, PER, SUR, DOM, SLV, HTI, and MEX

Goal 2: Promote, strengthen, and optimize mechanisms and tools for judicious and cost-effective vector management.

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
2.1	Number of countries (both malaria endemic and non-endemic) that are implementing integrated vector management based on PAHO/WHO guidelines	21	28	Partially achieved	Achieved in 15 countries: BLZ, BOL, BRA, COL, DOM, SLV, GTM, HAI, HND, MEX, NIC, PAN, PER, SUR, and VEN (<i>concept of IVM was recently reviewed</i>)
2.2	Number of malaria-endemic countries that are monitoring insecticide resistance	12	17	Partially achieved	Achieved in 13 countries: BOL, BRA, COL, DOM, SLV, GTM, HAI, HON, MEX, NIC, PAN, PER, and VEN
2.3	Number of countries that use results of entomological surveillance in decision making and impact evaluations	17	21	Partially achieved	Achieved in 10 countries: BOL, BRA, COL, SLV, GTM, HAI, HON, MEX, NIC, and PAN
2.4	Number of countries undertaking research on integrated vector management	8	13	Fully achieved	Achieved in 14 countries and territories: BOL, BRA, COL, ECU, GUY, HND, PAN, PER, SUR, BLZ, DOM, SLV, HAI, and MEX

Goal 3: Strengthen efforts to achieve universal access to prompt, accurate, and quality malaria diagnosis, followed by rapid treatment with effective antimalarial medicines.

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
3.1	Number of countries participating in knowledge sharing (including technical meetings) related to malaria diagnosis, treatment, and	27	33	Partially achieved	Achieved in 29 countries and territories: ARG, BHS, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND,

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
	resistance to antimalarial medicines				JAM, MEX, NIC, PAN, PRY, PER, SUR, VEN, BRB, CUB, TTO, USA, GUF, GLP, and MTQ
3.2	Number of countries with established quality control systems for malaria diagnosis (microscopy and rapid diagnostic tests as applicable) and for antimalarial medicines	10	21	Partially achieved	Achieved in 19 countries and territories: BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, SUR, and VEN
3.3	Number of malaria-endemic countries reporting malaria drug resistance surveillance data to PAHO, as per PAHO/WHO guidelines	17	20	Partially achieved	Achieved in 14 countries and territories: BOL, BRA, COL, DOM, ECU, GTM, GUY, HTI, HND, MEX, NIC, PER, SUR, and GUF
3.4	Number of countries participating in an external quality assurance program (EQAP)	10	21	Partially achieved	Achieved in 19 countries and territories: BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, SUR, and VEN
3.5	Number of countries where PAHO/WHO-recommended diagnostic tests and treatment regimens are available	23	28	Partially achieved	Achieved in 25 countries and territories: ARG, BHS, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, JAM, MEX, NIC, PAN, PRY, PER, SUR, BRB, TTO, USA, and GUF

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
3.6	Number of countries with a policy for non-use of presumptive malaria treatment	17	21	Partially achieved	Achieved in 20 countries and territories: ARG, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, SUR, and GUF
3.7	Number of countries implementing PAHO/WHO guidelines for malaria diagnosis and treatment	23	28	Partially achieved	Achieved in 23 countries and territories: ARG, BHS, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, JAM, MEX, NIC, PAN, PRY, PER, SUR, USA, and GUF
3.8	Number of countries documenting and implementing a research agenda that focuses on malaria diagnosis and treatment	13	21	Partially achieved	Achieved in 15 countries and territories: BLZ, BRA, COL, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PER, and SUR

Goal 4: Foster an environment that promotes sustainability and supports collaborative efforts and best practices to combat the disease.

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
4.1	Number of countries with social mobilization, multisectoral representation, and community involvement in their malaria plan and related activities	21	21	Fully achieved	Achieved in 21 countries and territories: ARG, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, SUR, VEN, and GUF
4.2	Number of endemic countries participating in	13	19	Fully achieved	Achieved in 19 countries and territories: BLZ,

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
	regional-level networks and collaborations				BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PER, SUR, VEN, and GUF
4.3	Number of countries engaged in inter-programmatic and synergistic actions advocated under PAHO/WHO initiatives and policies	13	19	Partially achieved	Achieved in 18 countries and territories: BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, and SUR
4.4	Number of countries with identified best practices in their malaria activities	8	13	Fully achieved	Achieved in 13 countries and territories: BRA, COL, DOM, ECU, GTM, HND, MEX, NIC, PRY, SUR, ARG, JAM, and PAN
4.5	Number of countries documenting and implementing a research agenda that focuses on advocacy, communication, partnerships, and collaboration	8	13	Fully achieved	Achieved in 13 countries and territories: BRA, COL, DOM, ECU, GTM, HND, MEX, NIC, PRY, SUR, ARG, JAM, and PER
4.6	Number of annual and biannual meetings related to malaria coordination undertaken at the regional and subregional levels	4	13	Fully achieved	Baselines and targets refer to total number of meetings during the five-year period (2016-2020); as of 2015, there had been five coordination meetings during the year, a total deemed optimal given the number of ongoing malaria networks and efforts

Goal 5: Optimize efforts to strengthen health systems (including strategic planning, monitoring and evaluation, and operations research, among others) and countries' capacity to address their respective malaria challenges both relevantly and adequately.

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
5.1	Number of countries designing and implementing training plans for malaria personnel	17	21	Fully achieved	Achieved in 21 countries and territories: ARG, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, SUR, VEN, and GUF
5.2	Number of countries engaging in South-South collaboration on malaria	13	17	Fully achieved	Achieved in 17 countries and territories: BLZ, BOL, BRA, COL, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PER, SUR, and GUF
5.3	Number of countries implementing WHO-recommended strategies and components of the PAHO Strategy and Plan of Action for Malaria	28	33	Partially achieved	Achieved in 31 countries and territories: ARG, BHS, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, JAM, MEX, NIC, PAN, PRY, PER, SUR, VEN, BRB, TTO, USA, ABW, CUW, SXM, GUF, GLP, and MTQ
5.4	Number of countries integrating monitoring and evaluation of malaria programs and interventions within the general health information system	10	17	Partially achieved	Achieved in 14 countries and territories: BRA, COL, CRI, DOM, ECU, SLV, GTM, HTI, HND, MEX, NIC, PER, SUR, and GUF

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
5.5	Number of malaria-endemic countries with functional supply chain management ensuring malaria prevention, control, diagnosis, and treatment capabilities	13	17	Partially achieved	Achieved in 16 countries and territories: ARG, BLZ, BOL, BRA, COL, CRI, DOM, SLV, HTI, HND, MEX, NIC, PAN, PRY, SUR, and GUF
5.6	Number of malaria-endemic countries with clear, relevant, and fully functioning malaria programs based on PAHO/WHO guidelines	20	21	Fully achieved	Achieved in 21 countries and territories: ARG, BLZ, BOL, BRA, COL, CRI, DOM, ECU, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, PER, SUR, VEN, and GUF
5.7	Number of countries implementing synergistic projects, including Global Fund projects, to finance malaria efforts based on PAHO/WHO strategies	10	12	Fully achieved	Achieved in 14 countries and territories: BLZ, BOL, COL, DOM, SLV, GTM, GUY, HTI, HND, MEX, NIC, PAN, PRY, and SUR
5.8	Number of countries conducting malaria operational research	10	15	Partially achieved	Achieved in 13 countries and territories: BOL, BRA, COL, ECU, GUY, HND, PAN, PER, SUR, DOM, SLV, HTI and MEX
5.9	Number of new or improved interventions and implementation strategies for malaria whose effectiveness has been determined and for which evidence has been made	2	3	Fully achieved	PAHO/AMRO collaborated strongly in the consolidation of the GTS, AIM, and the WHO <i>P. vivax</i> technical briefs, among other malaria thematic documents and recommendations.

Indicator No.	Indicator Text	Baseline (2011)	Target (2015)	Assessment Rating	Comments
	available to appropriate institutions for policy decisions				Likewise, PAHO/AMRO has convened the Malaria Technical Advisory Group, has facilitated the consolidation of the Framework for the Prevention of Artemisinin Resistance in South America and the Mesoamerican Plan for Malaria among Vulnerable Populations, and is in the process of finalizing the Region's Malaria Research Agenda.

Key: Country and Territory Names and Codes

AIA	Anguilla	ECU	Ecuador
ATG	Antigua and Barbuda	SLV	El Salvador
ARG	Argentina	FRA	France
ABW	Aruba	GUF	French Guiana
BHS	(the) Bahamas	GRD	Grenada
BRB	Barbados	GLP	Guadeloupe
BLZ	Belize	GTM	Guatemala
BMU	Bermuda	GUY	Guyana
BOL	Bolivia (Plurinational State of)	HTI	Haiti
BRA	Brazil	HND	Honduras
CAN	Canada	JAM	Jamaica
CYM	(the) Cayman Islands	MTQ	Martinique
CHL	Chile	MEX	Mexico
COL	Colombia	MSR	Montserrat
CRI	Costa Rica	NLD	(the) Netherlands
CUB	Cuba	NIC	Nicaragua
CUW	Curaçao	PAN	Panama
DMA	Dominica	PRY	Paraguay
DOM	Dominican Republic		

PER	Peru	TTO	Trinidad and Tobago
PRI	Puerto Rico	TCA	Turks and Caicos Islands
KNA	Saint Kitts and Nevis	GBR	United Kingdom
LCA	Saint Lucia	USA	United States of America
VCT	Saint Vincent and the Grenadines	URY	Uruguay
SXM	Sint Maarten	VEN	Venezuela (Bolivarian Republic of)
SUR	Suriname	VGB	(British) Virgin Islands



Pan American
Health
Organization



World Health
Organization
REGIONAL OFFICE FOR THE
Americas

55th DIRECTING COUNCIL

68th SESSION OF THE REGIONAL COMMITTEE OF WHO FOR THE AMERICAS

Washington, D.C., USA, 26-30 September 2016

CD55/13
Annex B
Original: English

PROPOSED RESOLUTION

PLAN OF ACTION FOR MALARIA ELIMINATION 2016-2020

THE 55th DIRECTING COUNCIL,

(PP1) Having reviewed the *Plan of Action for Malaria Elimination 2016-2020* (Document CD55/13), which proposes the implementation of efforts to accelerate malaria elimination, prevent reintroduction, and achieve the proposed targets for 2019 of the PAHO Strategic Plan 2014-2019;

(PP2) Recognizing the important achievements made in reducing the malaria disease burden in the Region during the implementation of the *Strategy and Plan of Action for Malaria in the Americas 2011-2015* (Resolution CD51.R9), as reflected in the achievement of malaria-related targets set in the Millennium Development Goals through concerted efforts of Member States and partners;

(PP3) Aware that despite these achievements, malaria remains a serious threat to the health, well-being, and economy of peoples and nations in the Americas and has historically resurged in areas where commitment and efforts against the disease have weakened;

(PP4) Aware that malaria elimination efforts will necessitate strengthened coordination among all partners and stakeholders, review and updating of malaria policies and strategic frameworks to accelerate efforts towards malaria elimination, sustained and strengthened surveillance at all levels of the health system, sustained commitment of stakeholders, and tailored approaches to contextual specificities and preparation for the end game and beyond;

(PP5) Considering Resolution WHA68.2 of the World Health Assembly, which adopts the global technical strategy and targets for malaria during the period 2016-2030, has a bold vision of a world free of malaria, and aims to reduce malaria incidence and

mortality rates globally by at least 90% by 2030, to eliminate the disease in at least 35 new countries, and to prevent its reestablishment in countries that were free of malaria in 2015;

(PP6) Recognizing that this Plan of Action is the platform for the implementation of the global strategy,

RESOLVES:

(OP)1. To approve the *Plan of Action for Malaria Elimination 2016-2020* (Document CD55/13).

(OP)2. To urge the Member States, taking into account their contexts, needs, vulnerabilities, and priorities, to:

- a) affirm the continuing importance of malaria as a health priority;
- b) review and update national plans or establish new ones towards malaria elimination, investing appropriate resources and employing tailored approaches that address the social determinants of health and provide for inter-programmatic collaboration and intersectoral action;
- c) reinforce engagement in efforts to address malaria, including coordination with other countries and relevant subregional initiatives in epidemiological surveillance of malaria, supply chain management, surveillance of resistance to antimalarial medicines and insecticides, and monitoring and evaluation;
- d) guarantee the availability of key malaria supplies including anti-malarials through effective planning and forecasting of needs and utilizing, as applicable, the PAHO Regional Revolving Fund for Strategic Public Health Supplies for joint procurement;
- e) strengthen health services and align them accordingly with PAHO/WHO evidence-based guidelines and recommendations on malaria prevention and case management;
- f) sustain the commitment of both malaria-endemic and non-endemic countries and various sectors to fight the disease, particularly in terms of sustained or increased investments and provision of necessary resources;
- g) establish integrated strategies and develop capacities to eliminate malaria and prevent the reestablishment of transmission with broad community participation so that the process helps to strengthen and sustain national health systems, surveillance, alert and response systems, and other disease elimination programs, with attention to factors related to gender, ethnicity, and social equity;
- h) further intensify efforts focusing on highly susceptible and vulnerable populations and occupational groups;

- i) support engagement in the development and implementation of a research agenda that addresses important knowledge, operational and technology gaps in malaria elimination and various contexts of malaria work in the Region.

(OP)3. To request the Director to:

- a) support the implementation of the Plan of Action for Malaria Elimination and provide technical cooperation, including capacity-building efforts needed for countries to develop and implement national plans of action;
- b) coordinate Region-wide efforts to eliminate local malaria transmission and prevent its potential reestablishment in malaria-free areas, in collaboration with countries and partners;
- c) advise on the implementation of national strategic plans for malaria control;
- d) continue to advocate for the active mobilization of resources among countries, as well as globally, and encourage close collaboration to forge strategic partnerships that support the implementation of national and cross-border efforts, including those targeting vulnerable and hard-to-reach populations;
- e) employ tailored approaches addressing the social determinants of health and providing for inter-programmatic collaboration and intersectoral action;
- f) report to the Governing Bodies on the progress of the implementation of the Plan of Action and the achievement of its targets at mid-term and at the end of the implementation period.

Report on the Financial and Administrative Implications of the Proposed Resolution for PASB

1. Agenda item: 4.7 - Plan of Action for Malaria Elimination 2016-2020

2. Linkage to [PAHO Program and Budget 2016-2017](#):

- a) **Categories:** 1, Communicable diseases
- b) **Program areas and outcomes:** 1.3, Malaria and other vector-borne diseases

3. Financial implications:

- a) **Total estimated cost for implementation over the life cycle of the resolution (including staff and activities):**

Areas	Estimated cost (in US\$)
Human resources	6,500,000
Training	9,500,000
Consultants/service contracts	7,200,000
Travel and meetings	5,000,000
Publications	\$300,000
Supplies and other expenses	1,500,000
Total (*)	30,000,000

(*) 40% of the total is assigned to the regional level and 60% is assigned to the country level.

Approximately US\$ 30,000,000, or an average of US\$ 6,000,000 annually, needs to be invested in PAHO technical cooperation on malaria for the period 2016-2020. This level of investment is essential in order for the institution to respond relevantly in its role of bridging gaps through technical cooperation and facilitating collaboration among countries and stakeholders. However, it is considered that greater resources will be needed as the Region becomes more aggressive in pursuing malaria elimination goals.

- b) **Estimated cost for the 2016-2017 biennium (including staff and activities):**

Based on historical program implementation rates and costs, the appropriate biennial budget for PAHO malaria efforts in the Region will be US\$ 12,000,000.

c) Of the estimated cost noted in b), what can be subsumed under existing programmed activities?

Current programmed activities cover all components of the strategy, but they are on a decreased scale of US\$ 4,000,000 for the biennium. Increasing the scale of efforts and financial support will enhance elimination efforts and optimize achievement of targets and desired results.

4. Administrative implications:

a) Indicate the levels of the Organization at which the work will be undertaken:

Global, regional, subregional, and central and local levels in countries.

b) Additional staffing requirements (indicate additional required staff full-time equivalents, noting necessary skills profile):

Current malaria regional staff and communicable disease country focal points with appropriate skills in malaria elimination, policy development, program planning and implementation, monitoring and evaluation, and capacity development must be sustained throughout the lifetime of the plan.

However, key countries in the Region will significantly benefit from having a technical staff fully devoted to malaria activities. This can be implemented by subregional malaria elimination advisers for Central America, South America, and Hispaniola.

c) Time frames (indicate broad time frames for the implementation and evaluation):

Implementation: 2016-2020. Mid-term assessment: 2018. Final evaluation to be presented to the Governing Bodies: 2021.

ANALYTICAL FORM TO LINK AGENDA ITEM WITH ORGANIZATIONAL MANDATES

1. Agenda item: 4.7 - Plan of Action for Malaria Elimination 2016-2020

2. Responsible unit: Communicable Diseases and Health Analysis/Neglected, Tropical, and Vector Borne Diseases (CHA/VT)

3. Preparing officers: Dr. Luis Gerardo Castellanos, Unit Chief, Neglected, Tropical and Vector Borne Diseases

4. Link between Agenda item and [Health Agenda for the Americas 2008-2017](#):

The Plan of Action for Malaria Elimination aligns strongly with the principles of the Health Agenda for the Americas 2008-2017. Moreover, its strategic components reflect the fact that most of the action areas indicated in the Health Agenda for the Americas—namely strengthening the national health authority; increasing social protection and access to quality health services; diminishing health inequalities between countries, as well as inequities within them; reducing the risk and burden of disease; strengthening the management and development of health personnel; and harnessing knowledge, science, and technology—apply to the specific challenge of malaria.

5. Link between Agenda item and the [PAHO Strategic Plan 2014-2019](#):

Malaria, together with other vector-borne diseases, is an integral part of Category 1 and contributes to the achievement of impact goals 6 (reduce mortality due to communicable diseases) and 8 (eliminate priority communicable diseases in the Region) of PAHO's Strategic Plan. Also, activities that address malaria are strongly linked to Categories 3, 4, 5, and 6.

6. List of collaborating centers and national institutions linked to this Agenda item:

- National government agencies
- Subregional initiatives: Health Surveillance Commission; Working Group on Health (SGT-11), Southern Common Market (MERCOSUR); Andean Epidemiological Surveillance Network (RAVE); Andean Health Agency-Hipólito Unanue Agreement (ORAS-CONHU); Health Surveillance and Response Network; Union of South American Nations (UNASUR); Council of Central American Health Ministers (COMISCA); Special Meeting, Health Sector of Central America and the Dominican Republic (RESSCAD); and the Caribbean countries, through the Caribbean Public Health Agency (CARPHA), among others.
- United Nations agencies: WHO Global Malaria Program and United Nations Environment Program (UNEP), among others.
- Multilateral and development partners: Roll Back Malaria (RBM) Partnership; Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM); U.S. Agency for International Development; Global Affairs Canada, and Mexican Agency for International Cooperation and Development (AMEXCID), among others.

- Research and academic community: U.S. Centers for Disease Control and Prevention (CDC); International Research Institute for Climate & Society (IRI); Earth Institute at Columbia University (WHO Collaborating Center for Early Warning Systems for Malaria and Other Climate-sensitive Diseases); *Laboratoire de Parasitologie Institut Pasteur de la Guyane* (WHO Collaborating Center for Surveillance of Antimalarial Drug Resistance); United States Pharmacopeia (USP); Special Program for Research and Training in Tropical Diseases (TDR); *Instituto Salud Global* (ISGlobal); *Centro Latinoamericano de Investigaciones en Malaria* (CLAIM); International Development Research Center (IDRC); George Washington University Center for Global Health (GWU-CGH); and universities and national research institutes, among others.
- Nongovernmental organizations: Bill and Melinda Gates Foundation, UN Foundation, CDC Foundation, Management Sciences for Health (MSH), Links Media, country-based NGOs, other foundations, and the private sector, among others.
- Other PAHO entities: Country and Subregional Coordination (CSC); External Relations, Partnerships and Resource Mobilization (ERP); Family, Gender and Life (FGL); Health Systems and Services (HSS); Gender, Diversity and Human Rights (GDR); Communications Department (CMU); Emergency Preparedness and Disaster Relief (PED); and Sustainable Development and Health Equity (SDE), among others.

7. Best practices in this area and examples from countries within the Region of the Americas:

Best practices and excellent examples of effective efforts to address malaria in the Region and its countries include:

- Amazon Malaria Initiative/Amazon Network for the Surveillance of Antimalarial Drug Resistance (AMI/RAVREDA) (http://new.paho.org/hq/index.php?option=com_content&task=view&id=2231&Itemid=2150)
- Malaria Champions of the Americas (examples from Brazil, the Dominican Republic, Guatemala, Honduras, and Paraguay) (<http://www.paho.org/campeonesmalaria/?lang=en>)

8. Financial implications of this Agenda item:

Approximately US\$ 30,000,000, or an average of US\$ 6,000,000 annually, needs to be invested in PAHO technical cooperation on malaria over the period 2016-2020. This level of investment is essential in order for the institution to respond relevantly in its role of bridging gaps through technical cooperation and facilitating collaboration among countries and stakeholders.
