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### PLAN OF ACTION FOR THE ELIMINATION OF NEGLECTED INFECTIOUS DISEASES AND POST-ELIMINATION ACTIONS 2016-2022

#### Introduction

1. The neglected tropical diseases (NTD) and other poverty-related infections, now known in the Americas as the neglected infectious diseases (NID), rank together with HIV/AIDS, malaria, and tuberculosis as among the most common serious infections both globally and in the Americas (1, 2). The NID have created a large burden on the lives of marginalized populations across the globe and in this Region. For example, an estimated 46 million children in 25 Latin American and Caribbean countries live in areas of risk of infection and re-infection with soil-transmitted helminths (hookworms, *Ascaris lumbricoides*, and *Trichuris trichiura*) (3), often compounded by co-infections with other parasites and microorganisms. In addition, PAHO estimates that about 11 million people remain at risk of blinding trachoma (4), principally in Brazil. Furthermore, 70.2 million people are at risk of Chagas disease due to poor housing quality and the presence of insect vectors, while approximately 5.7 million persons are currently infected (5).

2. The NID, in addition to their direct burden of morbidity, mortality, disability, and stigma (6-9), have created a significant social and financial burden on poor and marginalized groups because they contribute to the cycle of poverty (10). Significant advances toward the control and elimination of these diseases have been made in the Region in the last eight years, a period when three related resolutions on NID (whose life cycle concluded in 2015) were passed by the PAHO Directing Council: Towards the Elimination of Onchocerciasis (River Blindness) in the Americas (Resolution CD48.R12 [2008]), Elimination of Neglected Diseases and Other Poverty-Related Infections (Resolution CD49.R19 [2009]), and Strategy and Plan of Action for Chagas Disease Prevention, Control, and Care (Resolution CD50.R17 [2010]) (11-13). A final report on these three resolutions is presented in Annex A. However, the goals set in each of the three PAHO resolutions on neglected infectious diseases were not fully met, and a new comprehensive regional strategic Plan of Action for Neglected Infectious Diseases and Post-Elimination Actions is needed.

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3. The Plan of Action proposed for 2016-2022 is based on six strategic lines of action that are in accord with the WHO Roadmap for NTD (*14*) and Resolution WHA66.12 (2013) (*15*), discussed further below. The six-year Plan of Action proposes up-to-date, clear and innovative lines of action to reduce morbidity, disability, and mortality; address stigma; and more rapidly advance efforts to eliminate NID as public health problems and stop NID transmission among and to humans. The Plan of Action will principally address the surveillance, management, control, and elimination of 13 diseases: blinding trachoma, Chagas disease, cystic echinococcosis/hydatidosis, fascioliasis, human plague, leishmaniasis, leprosy (Hansen's disease), lymphatic filariasis, onchocerciasis (river blindness), dog-mediated human rabies, schistosomiasis, soil-transmitted helminthiasis, and taeniasis/cysticercosis. There is still a need to evaluate and document the regional epidemiological situation with respect to other NID such as brucellosis, Buruli ulcer, strongyloidiasis, ectoparasitic infections (e.g., scabies, tungiasis), selected fungal infections, myiasis, and yaws (one of the endemic treponematoses), as well as poisoning by venomous snakes and arthropods. Although not infectious, the burden of disease caused by snake bites is considerable in the Region of the Americas (*16*).

### **Background**

4. Since the adoption of the WHO Global Plan to Combat Neglected Tropical Diseases (2007) (*17*) and PAHO Resolution CD49.R19 (2009) for the Elimination of Neglected Diseases and Other Poverty-Related Infections 2008-2015 (*12*), there has been a growing global and regional commitment to control and eliminate such diseases, including the launching in 2012 of the WHO "Roadmap for NTD" (*14*). Soon thereafter, support for this Roadmap was offered in the form of the London Declaration on Neglected Tropical Diseases (2012) (*18*), a document signed by key supporters (bilateral, multilateral, and private-sector organizations; pharmaceutical companies; nongovernmental development organizations; and a number of ministries of health) of the work of WHO's Department of Control of NTD. In addition, in 2013, the Organization of American States adopted Resolution AG/RES.2810 (*19*) to politically support the regional initiative created by PAHO Resolution CD49.R19 (2009) (*12*), and that same year the World Health Assembly adopted Resolution WHA66.12 on Neglected Tropical Diseases (*15*) as a general framework for combating NTD.

5. The PAHO Strategic Plan 2014-2019 (*20*) includes as indicators for Impact Goal 8 the elimination of onchocerciasis in four countries, the elimination of vectorial transmission of Chagas disease in 21 countries by 2019, and zero human cases of dog-mediated human rabies in the 35 Member States. In Category 1 (Communicable Diseases), Program Areas 1.3 and 1.4 include increasing diagnosis and treatment coverage for different clinical forms of Chagas disease, leishmaniasis, leprosy, lymphatic filariasis, schistosomiasis, soil-transmitted helminthiasis, onchocerciasis, and trachoma (see Annex C).

## Situation Analysis

6. In addition to the health and poverty-related problems caused by NID (6-10, 21), Zoonotic NID affect human and animal health and production and cause further economic losses (market value of products), particularly in poor rural farming communities. Given the diversity of neglected infectious diseases, challenges remain in terms of achieving the goals of controlling and eliminating prioritized NID, along with implementing measures to prevent their reintroduction and to sustain achievements to 2030 (the date established for reaching the UN Sustainable Development Goals) and beyond.

7. A number of countries and territories in the Americas have interrupted or eliminated transmission of one or more NID in all or part of their national territory. Details on the progress in the Region are presented in Annex A. Although we are approaching “the last mile” to reach regional elimination (i.e., interruption of disease transmission to humans) of several NID, elimination goals have not yet been met in all countries. We still need to reach with deworming medicines about 11.7 million children under 15 years old (3), and other children, especially in the Andean region, need treatment for fascioliasis and cystic echinococcosis. In addition, many people with chronic forms of Chagas disease (22) and cutaneous and mucosal leishmaniasis are in need of affordable access to effective and safe medicines. Preventing all human deaths from plague, visceral leishmaniasis, cystic echinococcosis/hydatidosis, and human taeniasis/cysticercosis remain elusive regional targets and require the support of other sectors such as animal health and production. Progress has been made in describing the epidemiological situation of plague in South America as well as developing a strategic plan and an updated version of the guidelines for surveillance and control in endemic countries; however, its elimination requires prioritization of surveillance and control in the public health agenda.

8. These challenges need to be addressed in our Region through comprehensive and evidence-based public health interventions involving intersectoral collaborations, but also in a cross-cutting manner that can address the health needs of neglected populations: the poor living in remote rural areas, residents of slums and periurban shantytowns, indigenous communities and Afro-descendent settlements, prisoners and other confined special populations, migrants, and refugees (10). In addition, actions should be focused on the special needs of women and children in any impoverished community or marginalized population (10). Furthermore, we are reminded that these special risk populations epitomize the Region’s continual challenges with respect to achieving health for all and the full realization of health in the framework of human rights (23, 24).

9. Successful implementation of this new Plan of Action will require integrated inter-programmatic actions to efficiently reach elimination and control goals in a timely and cost-efficient manner. Also, the plan should articulate well with other program areas of the PAHO Strategic Plan such as malaria, vaccine-preventable diseases, food safety, epidemic and pandemic-prone diseases, and access to medicines and health services as appropriate. As well, an intersectoral approach is needed to tackle the environmental and

social determinants of these infections and conditions as a means of controlling and eventually ending their transmission. In the case of zoonotic NID, there is ample evidence that the most cost-effective way of preventing these diseases in humans and sustaining elimination is by means of interventions at the animal source. In 2015, a PAHO expert consultation on disease elimination in the Americas (25) highlighted these challenges and provided recommendations to integrate and accelerate efforts in the Americas for the control and elimination of NID, as well as progress on actions to avoid the reintroduction or recrudescence of these diseases in the post-elimination phase.

10. In the face of the diverse epidemiological and geographical distribution of the neglected infectious diseases, there are a number of reasons why countries have not reached all of the regional goals or maintained the achievements of surveillance, prevention, control, and elimination of priority NID: *a)* lack of timely and affordable access to essential medicines, diagnostic tests, vaccines, and equipment to reduce the burden of disease; *b)* lack of adequate human resources and sufficient funding for proper surveillance, screening, and monitoring of entomological interventions for various NID transmitted by vectors; *c)* weak monitoring and evaluation systems; *d)* low visibility of NID and lack of political will at the higher governmental levels, delaying achievement of national and subnational elimination goals; *e)* poverty and gaps in health education, good hygienic practices, access to adequate sanitation and safe water, and social participation; *f)* limited or no access to health services for NID treatment and prevention at the primary (e.g., perinatal services) and secondary health care levels; *g)* failure to capitalize on inter-programmatic, intersectoral, and inter-country opportunities for disease elimination and control and on donations of NID medicines by WHO; *h)* limited human and animal health coordination efforts or sustained interventions at the animal source to tackle zoonotic NID; and *i)* lack of proven strategies and interventions to tackle the post-elimination public health issues remaining in communities where NID transmission has stopped. The Plan of Action lists a set of general objectives and strategies to address the cross-cutting themes and underlying causes of the continuing presence of NID. The plan will incorporate lessons learned in the Region (26) and best practices as recognized in various WHO NTD guidelines and policy briefs<sup>1</sup> as well as published scientific papers (27-30).

## **Proposal**

11. The new regional strategic Plan of Action for Neglected Infectious Diseases and Post-Elimination Actions is focused on elimination and scaled-up control of NID and tackling community needs in the post-elimination phase. The plan will take into account the lessons learned in the three PAHO resolutions on NID and remaining work to be done on elimination. The objective of the plan is to reach and maintain disease elimination in order to meet the goals set out in the WHO Roadmap on NTD for 2020 and the UN Sustainable Development Goals by 2030. The accompanying proposed resolution (Annex B), if approved, will validate the objectives of the Plan of Action and make public the

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<sup>1</sup> See [http://www.who.int/neglected\\_diseases/diseases/en/](http://www.who.int/neglected_diseases/diseases/en/).

commitment of the Member States and the Pan American Sanitary Bureau (PASB), collectively, to meet them.

### **Plan of Action (2016-2022)**

12. The general objectives and priorities of the Plan of Action, which can be reached through the strategic lines of action (below), are to:

- a) Interrupt transmission of and eliminate eight NID for which there are cost-effective tools: blinding trachoma, Chagas disease, dog-mediated human rabies, leprosy (Hansen's disease; eliminated as a public health problem), human taeniasis/cysticercosis, lymphatic filariasis, onchocerciasis (river blindness), and schistosomiasis.
- b) Prevent, control, and reduce the burden of disease from five NID for which there are integrated and innovative management tools: cystic echinococcosis/hydatidosis, fascioliasis, human plague, leishmaniasis (cutaneous and visceral), and soil-transmitted helminthiasis.
- c) Assess the regional epidemiological situation with respect to other NID affecting groups living in vulnerable conditions, such as brucellosis, Buruli ulcer, ectoparasitic infections (e.g., lice, scabies, tungiasis), selected fungal infections, myiasis, strongyloidiasis, venomous snake bite and arthropod bite poisonings, and yaws.
- d) Reduce the risk of recrudescence or reintroduction of any NID in the post-elimination phase.

### **Strategic Lines of Action**

13. Member States, in collaboration with PASB, will support the following strategic lines of action and accompanying objectives and indicators.<sup>2</sup>

#### ***Strategic Line of Action 1: Strengthen innovative and intensified disease surveillance, diagnosis, and clinical case management of NID***

- a) Identify obstacles to implementing control and elimination actions at the national and subnational levels, according to the epidemiological status and capacities of the national health system in each country, and tailor and implement strategies to scale up early detection and diagnosis, prompt treatment, high-quality care, systematic screening, and adequate monitoring and epidemiological surveillance of NID, including capture of gender and age-related data.

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<sup>2</sup> The strategic lines of action are coherent with the nine strategic areas for action of the WHO Global Plan to Combat Neglected Tropical Diseases 2008-2015 (16), the six interventions of the WHO Roadmap for NTD (2012) (10), and the four strategic objectives of the WHO WASH-NTD Global Strategy 2015-2020 (31).

- b) Establish innovative approaches to tackling several diseases affecting the same population groups living in vulnerable conditions through the design and implementation of strategies that change existing routine management measures and accelerate the reduction of disease prevalence to near elimination. Operational research/implementation is important to identify system bottlenecks and create innovative approaches to addressing NID.
- c) Develop, implement, monitor, and evaluate national and subnational integrated plans, programs, projects, or strategies to tackle multiple NID and their determinants. Establishing task forces with delegates from inter-programmatic and intersectoral partners and stakeholders is critical to define packages of interventions to tackle multiple NID, including the estimation of costs and financial gaps of operational plans to be fully implemented, as well as to advocate for and help to sustain the commitment with control and elimination goals at the highest governmental level.
- d) Improve case detection and decentralize clinical management to prevent mortality, reduce morbidity, and interrupt transmission of NID among and to humans. This includes improving the skills and capacities of health workers and health facilities at all levels for morbidity management and disability prevention to tackle stigma and discrimination caused by NID.
- e) Deliver effective, safe, and quality-assured health interventions, including diagnostic tools and treatments, and improve access to medicines for all.
- f) Expand inter-country, South to South, and subregional initiatives to place NID at the highest political agenda levels and promote common approaches among countries sharing similar challenges.
- g) Strengthen cross-border initiatives to tackle NID affecting people living in vulnerable conditions in remote and difficult-to-reach geographical border areas.

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
<b>1.1</b> Reduce the lethality rate of visceral leishmaniasis and the proportion of children with cutaneous leishmaniasis	<b>1.1.1</b> Number of endemic countries that have reduced the lethality rate of visceral leishmaniasis by 50%	0	5
	<b>1.1.2</b> Number of endemic countries that have reduced the proportion of children under 10 years old with cutaneous leishmaniasis by 50%	0	8
<b>1.2</b> Accelerate actions to interrupt domiciliary transmission of Chagas disease by the principal vectors	<b>1.2.1</b> Number of endemic countries and territories where the entire endemic country or territory, or the endemic territorial subdivision, has a domestic infestation index (either by the principal triatomine vector species or by the	17	21

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
	substitute vector) of less than or equal to 1%		
<b>1.3</b> Further reduce the burden of leprosy	<b>1.3.1</b> Number of endemic countries and territories with a high burden of leprosy that have less than one new case per million population with grade 2 disabilities at diagnosis	3	7
	<b>1.3.2</b> Number of endemic countries that have eliminated leprosy as a public health problem at the first subnational level	16	23
<b>1.4</b> Implement diagnosis and case management of cystic echinococcosis/hydatidosis patients	<b>1.4.1</b> Number of endemic countries that have implemented sensitive serological and ultrasound screening for cystic echinococcosis/hydatidosis in endemic areas	2	7
	<b>1.4.2</b> Number of endemic countries that monitor and characterize the number of treated people screened for cystic echinococcosis/hydatidosis in endemic areas	2	7
<b>1.5</b> Strengthen case and event management of human plague in the framework of the IHR through improved clinical and diagnostic protocols	<b>1.5.1</b> Number of plague-endemic countries with improved surveillance and clinical and laboratory network diagnosis capabilities	1	5

<sup>a</sup> The baseline and target countries will be named in a template that defines each indicator of this Plan of Action. It is available upon request.

***Strategic Line of Action 2: Strengthen preventive chemotherapy and increase access to basic health care for NID***

- a) Scale up preventive chemotherapy through widespread delivery of safe, single-dose, quality-assured medicines, either alone or in combination, at regular intervals and with optimal coverage to treat selected NID for which effectiveness has been demonstrated. This includes ensuring improved accessibility and affordability of medicines for those in need of preventive chemotherapy by leveraging a number of mechanisms, such as donations of medicines offered through WHO.
- b) Promote integration of preventive chemotherapy and other large-scale interventions for NID in public health platforms already in place to reach

populations in need of treatment, thus optimizing installed capacities (e.g., integration of deworming for STH during Vaccination Week in the Americas to reach preschool-age children). Integrated activities result in increased cost-effectiveness, enhanced health impact, political advantages, improved logistical convenience, and better timing.

- c) Reinforce monitoring, evaluation, and operational/implementation research as a means of improving decision-making processes throughout the life cycle of programs designed to control and eliminate NID, including definitions of criteria to scale up preventive chemotherapy and other interventions, sentinel surveillance, transmission assessment surveys, impact surveys, surveillance of severe adverse events, surveillance of drug efficacy, and post-treatment and post-elimination surveillance.

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
2.1 Increase access to preventive chemotherapy for populations at risk of selected NID according to PAHO/WHO recommendations	2.1.1 Number of endemic countries that have achieved the recommended treatment target coverage <sup>b</sup> of the population at risk of lymphatic filariasis, STH, schistosomiasis, trachoma, and/or onchocerciasis necessary to interrupt transmission, depending on the country's epidemiological situation	Lymphatic filariasis 2	Lymphatic filariasis 4
		Soil-transmitted helminthiasis 5	Soil-transmitted helminthiasis 25
		Schistosomiasis 0	Schistosomiasis 2
		Trachoma 2	Trachoma 3
		Onchocerciasis 1	Onchocerciasis 2
2.2 Eliminate NID that are targeted for preventive chemotherapy, including collection of evidence to support elimination	2.2.1 Number of endemic countries that have eliminated transmission of onchocerciasis and schistosomiasis and have eliminated lymphatic filariasis and blinding trachoma as a public health problem	Onchocerciasis 4	Onchocerciasis 6
		Schistosomiasis 0	Schistosomiasis 4
		Lymphatic filariasis 0	Lymphatic filariasis 3
		Blinding trachoma 0	Blinding trachoma 4

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
<b>2.3</b> Increase access of at-risk and exposed people to quality rabies immune globulin (RIG) and rabies human vaccine	<b>2.3.1</b> Number of endemic countries with prompt availability of cell culture vaccine and RIG for at-risk and/or exposed people	0	11

<sup>a</sup> The baseline and target countries will be named in the template for each indicator of this Plan of Action.

<sup>b</sup> Treatment coverage is the proportion of the population at risk of each disease that was treated. Minimum treatment coverage goals each year are as follows: lymphatic filariasis,  $\geq 65\%$ ; soil-transmitted helminthiases,  $\geq 75\%$ ; schistosomiasis,  $\geq 75\%$ ; trachoma,  $\geq 80\%$ ; and onchocerciasis,  $\geq 85\%$ .

### *Strategic Line of Action 3: Strengthen integrated management of vectors*

- a) Combine different interventions in an effective manner through comprehensive and inter-programmatic collaborations within the health sector and with other sectors, including agriculture and the environment, to scale up integrated vector management. This approach improves the efficacy, cost-effectiveness, ecological soundness, and sustainability of disease control measures used to tackle vector-borne NID.
- b) Reinforce rational decision-making in terms of the optimal and integrated use of resources against single or multiple vector-borne NID to reduce vectorial capacity.
- c) Strengthen subnational, national, and regional entomology capacities to support entomological surveillance as a means of controlling and eliminating NID according to the epidemiological situation in each country.
- d) Carry out operational research/implementation efforts to establish effective, feasible, and sustainable integrated vector management interventions according to the epidemiological situation in each country.

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
<b>3.1</b> Strengthen integrated management of NID vectors	<b>3.1.1</b> Number of NID-endemic countries that have applied strategies related to the integrated management of vectors, according to their epidemiological situation	0	6
	<b>3.1.2</b> Number of endemic countries that have strengthened their capacity in terms of NID entomology, according to their epidemiological situation	0	10

<sup>a</sup> The baseline and target countries will be named in the template for each indicator of this Plan of Action.

***Strategic Line of Action 4: Strengthen the prevention of select neglected zoonoses through a veterinary public health/One Health approach***

- a) Tailor interventions to break the human-animal-environmental cycle of transmission of neglected zoonotic diseases through an intersectoral collaboration covering the three areas of interest involved in the cycle: human health, veterinary health, and environmental health.
- b) Foster intersectoral and interdisciplinary collaborations across the different sectors related to the interventions to tackle neglected zoonotic diseases in the framework of a veterinary public health/One Health approach.
- c) Promote and implement cross-border initiatives to tackle neglected zoonotic diseases that are common to population groups living in difficult-to-reach geographical border areas.
- d) Improve coordinated actions between countries to prevent and respond to both endemic and epidemic zoonotic diseases by linking efforts targeting people, animals, food, and the environment. This includes reinforcement of surveillance data on zoonoses and public awareness of the threat to public health of zoonoses.
- e) Increase national and subnational capacities to establish the burden of neglected zoonotic diseases, implement surveillance and reporting systems, promote research, install laboratory capacities to support diagnoses, guarantee supplies and medicines, diagnostic tests and equipment and formulate and implement integrated plans of action to tackle single or multiple neglected zoonotic diseases according to the epidemiological status in each country.

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
4.1 Strengthen the prevention of prioritized zoonoses through a veterinary public health/One Health approach	4.1.1 Number of endemic countries with established capacity and processes to control or eliminate human taeniasis/ cysticercosis (HT/C) and cystic echinococcosis/ hydatidosis (CE/H) through a veterinary public health/One Health approach	HT/C 0	HT/C 4
		CE/H 1	CE/H 7
	4.1.2 Number of plague-endemic countries and territories that have established a specific cross-sectoral, integrative, and multidisciplinary plan or norm for plague prevention, surveillance, and control	1	5
4.2 Increase countries' capacity to eliminate dog-mediated human rabies	4.2.1 Number of endemic countries and territories with established capacity and effective processes to eliminate dog-mediated human rabies	28	35

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
	4.2.2 Number of endemic countries and territories that can provide evidence confirming they had no autochthonous canine rabies cases in the last two years	0	9
4.3 Strengthen cross-border coordination to improve surveillance and control	4.3.1 Number of endemic countries that work collaboratively to strengthen cross-border surveillance of animal sources of rabies, cystic echinococcosis/ hydatidosis (CE/H), brucellosis, and visceral leishmaniasis	Rabies 0	Rabies 12
		CE/H 0	CE/H 7
		Brucellosis 0	Brucellosis 12
		Visceral leishmaniasis 0	Visceral leishmaniasis 4

<sup>a</sup> The baseline and target countries will be named in the template for each indicator of this Plan of Action.

***Strategic Line of Action 5: Adopt intersectoral approaches to reduce the risk of NID transmission through improved access to safe water, basic sanitation, and hygiene***

- a) Foster new intersectoral networks of partners and stakeholders at the national and subnational levels to support the expansion of approaches designed to improve access to safe water, basic sanitation, and hygiene with the goal of reducing the risk of NID transmission through environmental management and lasting behavioral change and through services that improve community development and enable communities to sustain change. These partners and stakeholders should be included as part of the task forces created in countries to support plans, programs, projects, and strategies to tackle NID.
- b) Implement water, sanitation, and hygiene (WASH) strategies as part of national and subnational initiatives addressing NID in order to maximize the effectiveness of WASH interventions for NID control and elimination.
- c) Facilitate collaboration between the national institutions responsible for WASH and NID at the country level to ensure that NID are part of the decision-making process for implementation of WASH initiatives, and vice versa.
- d) Increase the evidence base on how to deliver effective WASH interventions for NID control and elimination and embed relevant findings in guidance and practice.

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
5.1 Develop new partnerships and networks of partners and stakeholders in NID-endemic countries to tackle the social determinants of health and improve living conditions	5.1.1 Number of NID-endemic countries that establish new networks or groups of partners and stakeholders to support the development and implementation of interprogrammatic and/or intersectoral actions designed to improve living conditions (e.g., potable water, basic sanitation and hygiene, improved housing) in communities at high risk of transmission of NID, depending on the country's epidemiological situation	0	17
	5.1.2 Number of endemic countries that have socio-ecologically characterized human plague in their plague-endemic areas	1	5
5.2 Adopt the WHO WASH-NTD strategy (2015), <sup>b</sup> as adapted for NID-endemic countries in the Region	5.2.1 Number of NID-endemic countries that use the framework of the WHO WASH-NTD strategy as part of national or subnational approaches to tackling NID	0	6

<sup>a</sup> The baseline and target countries will be named in the template for each indicator of this Plan of Action.

<sup>b</sup> Water Sanitation and Hygiene for accelerating sustaining progress on Neglected Tropical Diseases: A Global Strategy 2015-2020 available at:

[http://apps.who.int/iris/bitstream/10665/182735/1/WHO\\_FWC\\_WSH\\_15.12\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/182735/1/WHO_FWC_WSH_15.12_eng.pdf?ua=1)

***Strategic Line of Action 6: Incorporate innovative approaches supported by operational/implementation research to eliminate disease transmission and address NID post-elimination actions and new priorities***

- a) Foster new approaches and simplified strategies to control and eliminate NID. Operational research is critical in finding new ways to deploy existing tools and strategies where they are needed most and to test new tools in the field.
- b) Encourage national governments and international donors and partners to invest and create capacities in countries to develop basic and operational research as a means of tackling challenges in NID elimination and post-elimination efforts.
- c) Develop the necessary inter-country and cross-border surveillance initiatives and actions once a country reaches interruption of transmission of an NID among humans as part of collaborative efforts to intervene if reintroduction occurs.
- d) Identify new priorities and needs throughout the life cycle of an NID control and elimination program, mainly when countries are integrating actions to reach those most in need. This includes new diseases that affect communities living in

vulnerable conditions for which establishment of disease burden and development of comprehensive actions to tackle the diseases are needed.

- e) Document the epidemiological and historical process that brings a country or group of countries to the elimination status of an NID. This information will be compiled and submitted to PAHO/WHO as part of the procedure officially recognizing the achievement, and the documentation and processes will be completed according to technical guidelines for each disease.

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
6.1 Develop and implement actions to monitor and sustain the achievement of control and elimination of NID in countries that have reached specific elimination goals	6.1.1 Number of NID-endemic countries that have achieved the goals of elimination of one or more NID and have developed and put in place measures to prevent disease resurgence or reintroduction of Chagas disease, onchocerciasis, lymphatic filariasis, blinding trachoma, dog-mediated human rabies, or cystic echinococcosis/hydatidosis (CE/H)	Chagas disease 9	Chagas disease 16
		Onchocerciasis 3	Onchocerciasis 6
		Lymphatic filariasis 3	Lymphatic filariasis 6
		Blinding trachoma 0	Blinding trachoma 4
		Dog-mediated human rabies 28	Dog-mediated human rabies 35
		CE/H 0	CE/H 3
	6.1.2 Number of NID-endemic countries that have established and implemented cross-border initiatives to carry out joint prevention, control, and elimination actions related to onchocerciasis, lymphatic filariasis, and blinding trachoma in affected populations living in border areas	Onchocerciasis 1	Onchocerciasis 2
		Lymphatic filariasis 2	Lymphatic filariasis 5
		Blinding trachoma 0	Blinding trachoma 4
	6.2 Develop and implement actions to address new NID priorities	6.2.1 Number of NID-endemic countries that have mapped or documented the epidemiological situation and baseline capacities for other NID of national importance <sup>b</sup>	Buruli ulcer 0
Brucellosis 0			Brucellosis 12

Objective	Indicator <sup>a</sup>	Baseline (2016)	Target (2022)
6.3 Compile evidence of the epidemiological status of other NID that affect population groups living in vulnerable conditions	6.3.1 Number of former endemic countries and territories that compile evidence to support the elimination of yaws, lymphatic filariasis, and schistosomiasis	Yaws 0	Yaws 26
		Lymphatic filariasis 0	Lymphatic filariasis 6
		Schistosomiasis 0	Schistosomiasis 6
	6.3.2 Number of countries and territories where blinding trachoma has been suspected to occur and/or occurs in groups of people living in vulnerable conditions that compile evidence to update their current epidemiological status	0	12

<sup>a</sup> The baseline and target countries will be named in the template for each indicator of this Plan of Action.

<sup>b</sup> For example, new reports of the current epidemiological situation regarding Buruli ulcer, selected zoonotic infections (e.g., brucellosis, cystic echinococcosis/hydatidosis, and human taeniasis/cysticercosis), strongyloidiasis, or ectoparasitic infections that become a priority for a particular country.

## Evaluation and Monitoring

14. Progress towards the achievements of this Plan of Action can be measured in synchrony with the goals set out for the Region of the Americas in the WHO Roadmap on NTD for 2020 (14) and the baseline and target indicators in the PAHO Strategic Plan 2014-2019 (20) that have a 2019 target date and biennial programs and budgets, and the additional baseline and target indicators in the plan can be measured to the year 2022. Data will be collected from such sources as national information systems (including sentinel site surveillance and survey data to obtain results of indicators towards achievement of control and elimination goals), regional reports, and ad hoc survey instruments. A report on the Plan of Action will be prepared every two years to assess progress toward the goals and, if necessary, incorporate adjustments. Monitoring and analytic reports will be submitted to PASB's Executive Management at a frequency to be set at their discretion. Monitoring can consider the use of both NID and WASH indicators, as recommended by WHO (31), to highlight intersectoral impacts and community progress and to identify remaining inequalities. A final report will be prepared in 2022 and presented in 2023 for the Organization's Governing Bodies.

## Financial Implications

15. The total estimated cost of implementing the Plan of Action from the beginning of 2016 to the end of 2022, including expenses for staffing and activities, is US\$ 41,543,000 (see Annex C).

## Action by the Executive Committee

16. The Executive Committee is invited to review the Plan of Action and Annex A, offer any recommendations it deems pertinent, and consider approving the corresponding proposed resolution (Annex B).

Annexes

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## Annex A

### Final Report on three PAHO Resolutions on Neglected Infectious Diseases

#### Final Update on Progress 2009-2015 Towards Meeting the Goals Established in PAHO's Directing Council Resolutions CD48.R12 (2008) (1), CD49.R19 (2009) (2) and CD50.R17 (2010) (3)

1. In our Region, WHO verified the elimination of **onchocerciasis** in *Colombia* in 2013, *Ecuador* in 2014, and *Mexico* in 2015; the same is expected for *Guatemala* in 2016. The number of people needing treatment for onchocerciasis in the Region has dropped from over 336,000 in 2009 to just over 25,000 in 2015, a more than 10-fold decline (4). *Mexico* is expected to request verification of elimination of blindness due to **trachoma** in 2016, while *Colombia* continues to find and treat blinding trachoma patients. Since 2009, three countries have been removed from the WHO map of **lymphatic filariasis**-endemic countries (*Costa Rica*, *Suriname*, and *Trinidad and Tobago*) and have not reported local transmission, and three countries have significantly reduced areas of transmission (*Brazil*, *Haiti*, and *the Dominican Republic*), bringing them closer to elimination (5). Seventeen countries in Central and South America have eliminated transmission of **Chagas disease** by the principal domestic vector in all or part of their territory, and all 21 endemic countries now have 100% screening of blood banks in their governmental health systems (6). By 2014, all of the countries of the Region of the Americas had reached the goal of eliminating **leprosy** as a public health problem at the national level (less than one case per 10,000 inhabitants), with the exception of *Brazil*. At the first subnational political/administrative level (departments, states, provinces, etc.), 16 countries have reached the leprosy elimination goal, while seven countries have yet to do so (4).

2. Areas of **malaria** transmission in several of the 21 countries classified as endemic countries have been reduced in size since 2009, and the Region has experienced a 64% drop in morbidity due to malaria since 2000. According to WHO criteria, malaria transmission is considered interrupted in *Argentina*, *Paraguay*, and *Costa Rica*, with *Argentina* expected to be the first country to receive a WHO certification of elimination. Fourteen countries are now considered by PAHO as free of local malaria transmission. Seven of the 21 endemic countries are now classified as being in the WHO elimination phase. Four of the seven are in Central and North America, and the others are in South America. Reflecting the current epidemiological situation, the Declaration for the Elimination of Malaria in Mesoamerica and Hispaniola was publicly announced in 2013 with the goal of eliminating malaria in these two areas by 2020 (7, 8).

3. The numbers of at-risk preschool- and school-age children treated for **soil-transmitted helminth** infections have grown in several countries as countries assume greater responsibility for addressing this threat to children's health and their

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physical and cognitive development. Although figures continue to vary from year to year, a reported total of about 19.9 million children were treated in 2013 in the Region (9). Two countries remain with some zones of transmission of **schistosomiasis** (*Brazil* and *Venezuela*), while two others have residual transmission in limited foci (*Suriname* and *Saint Lucia*). Six Caribbean countries and territories may have eliminated transmission (*Puerto Rico*, *Montserrat*, *Martinique*, *Guadalupe*, *Antigua and Barbuda*, and *the Dominican Republic*) (4).

4. Creating a pathway for interprogrammatic and intersectoral coordination, **integrated plans of action** for the control and elimination of multiple NID have been prepared by 17 countries (4). Specific plans for the elimination of certain NID and malaria in a total of seven multi-country subregional or binational agreements (e.g., malaria in Mesoamerica including *Mexico*, malaria and lymphatic filariasis in Hispaniola, onchocerciasis in the Yanomami area, and Chagas disease in four subregional initiatives) have also been developed, and countries meet periodically to coordinate elimination efforts.

5. Cases of **dog-mediated human rabies** continue to be limited to a small number of well-defined geographic areas in a few countries. Since 1982, when the Regional Program for the Elimination of Human Rabies began, cases of dog-mediated human rabies have decreased by approximately 95% in the Region (from 355 in 1982 to only 11 reported by six countries in 2015) (10, 11). Although the number of annual human fatalities remains low, persistent pockets of dog rabies remain, leading to a sustained risk of infection in the population of the Americas. Rabies dog vaccines have been incorporated into PAHO's Revolving Fund for Vaccine Procurement, but more countries need to take advantage of these low-priced approved vaccines.

6. Progress with respect to **plague** (one of the diseases of compulsory notification under the IHR) and its surveillance in South America is reflected in an integrated and strategic plan that includes an updated version of the PAHO Guidelines on Plague Surveillance and Control in Endemic Countries in the Americas (*Bolivia*, *Brazil*, *Ecuador*, *Peru*, and *the United States of America* are endemic countries) (12, 14,15); the implementation of rapid testing allowing for early diagnosis at local levels; revision of the therapeutic schemes in the PAHO/WHO Manual on Treatment of Infectious Diseases (6th Edition); and publication, in Spanish, of the Operation Guide for the Surveillance and Control of the Synanthropic Rodents; mapping of *Yersinia pestis* circulation in historical, endemic, and epidemiological silence areas of the Northern Region of *Peru*; and the development of an innovative approach for characterizing the social and ecological determinants of plague to identify risk factors associated with plague endemicity (12-15).

7. With respect to infectious diseases of poverty affecting newborns, two are approaching elimination. As of 2014, only 17,400 cases of **congenital syphilis** were reported among the countries of the Region, and 17 countries reported having successfully eliminated it (and its elimination in Cuba was validated by WHO in 2015)

(16, 17). The number of reported cases of **neonatal tetanus** declined from 22 in 2011 to 10 in 2014; only in *Haiti* does neonatal tetanus remain a public health challenge (18, 19).

8. The recent PAHO Regional Consultation on Disease Elimination in the Americas (20) confirmed that successes in this Region, such as with onchocerciasis and malaria elimination, are being taken as learning models by WHO Headquarters and other WHO regional offices, including the use of certain tools and protocols as part of newly revised WHO guidelines for verification of disease elimination (e.g., onchocerciasis). In a recent global conference convened by the OIE (World Organisation for Animal Health) and WHO (11-12 December 2015), the Region was noted as also leading the way in global efforts to eliminate dog-mediated human rabies.

### **Principal Challenges Encountered in NID Elimination in the Americas, 2009-2015**

9. The PAHO regional program on NID notes that the Region and its endemic countries have faced several common (shared) challenges to elimination of neglected infectious diseases and other poverty-related diseases since the 2008-2010 period, when three related resolutions were passed sequentially by the PAHO Directing Council: *Towards the Elimination of Onchocerciasis (River Blindness) in the Americas* (Resolution CD48.R12 [2008]) (1), *Elimination of Neglected Diseases and Other Poverty-Related Infections* (Resolution CD49.R19 [2009]) (2), and *Strategy and Plan of Action for Chagas Disease Prevention, Control, and Care* (Resolution CD50.R17 [2010]) (3). These challenges include the following: lack of timely and affordable access to essential medicines, vaccines, and equipment; lack of adequate human and financial resources for surveillance, screening, monitoring, and entomological interventions for various NID and malaria; weak monitoring and evaluation systems; lack of political will at the higher governance levels, delaying achievement of national and subnational elimination goals; gaps in health education, good hygienic practices, access to adequate sanitation and safe water, and social participation; insufficient health services for NID treatment and prevention at the primary (e.g., perinatal services) and secondary health care levels; failure to capitalize on inter-programmatic and intersectoral opportunities for disease elimination and control and on donations of NID medicines by WHO; and lack of proven strategies and interventions to tackle the post-elimination public health issues remaining among the people living in the Region's indigenous, Afro-descendent, rural, and periurban poor communities. Notably, many of these challenges continue to be similar to those faced by other WHO regions.

10. The goals set in each of the three resolutions on neglected infectious diseases and other poverty-related infections have been partially but not fully met. Therefore, it will be necessary to develop a new regional strategic plan of action focused on elimination and scaled-up control of NID and tackling community needs in the post-elimination phase. Details on the progress for each NID, the current epidemiological situation, elimination goals, principal achievements towards these goals, and on-going challenges associated with selected neglected infectious diseases and other poverty-related infections are presented in brief at [www.paho.org/neglecteddiseases](http://www.paho.org/neglecteddiseases).

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## 158th SESSION OF THE EXECUTIVE COMMITTEE

Washington, D.C., USA, 20-24 June 2016

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CE158/19  
Annex B  
Original: English

### ***PROPOSED RESOLUTION***

#### **PLAN OF ACTION FOR THE ELIMINATION OF NEGLECTED INFECTIOUS DISEASES AND POST-ELIMINATION ACTIONS 2016-2022**

##### ***THE 158th SESSION OF THE EXECUTIVE COMMITTEE,***

Having reviewed the proposed *Plan of Action for the Elimination of Neglected Infectious Diseases and Post-elimination Actions 2016-2022* (Document CE158/19),

#### ***RESOLVES:***

To recommend that the Directing Council adopt a resolution along the following lines:

#### **PLAN OF ACTION FOR THE ELIMINATION OF NEGLECTED INFECTIOUS DISEASES AND POST-ELIMINATION ACTIONS 2016-2022**

##### ***THE 55th DIRECTING COUNCIL,***

(PP1) Having examined the *Plan of Action for the Elimination of Neglected Infectious Diseases and Post-elimination Actions 2016-2022* (Document CD55/\_\_);

(PP2) Considering that the World Health Organization has provided an overarching framework to address the challenge of prevention, elimination, and control of neglected tropical diseases at the global level;

(PP3) Considering the Health Agenda for the Americas 2008-2017 (2007), the Strategic Plan of the Pan American Health Organization 2014-2019 (Official Document 345 [2014]), Report on the 16th Inter-American Meeting at the Ministerial Level on Health and Agriculture (RIMSA 16) (Document CD52/INF/3 [2013]), the Plan of Action on Health in All Policies (Resolution CD53.R2 [2014]), the Strategy for Universal Access

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to Health and Universal Health Coverage (Resolution CD53.R14 [2014]), and the concept paper on Health and Human Rights (Resolution CD50.R8 [2010]);

(PP4) Acknowledging the impact of neglected infectious diseases on morbidity and mortality, disability, and stigma in the Region of the Americas, especially among high-risk populations and vulnerable groups;

(PP5) Recognizing that neglected infectious diseases both reflect and accentuate inequities in coverage of health services by affecting populations at the economic margins of society;

(PP6) Acknowledging that measures of prevention and treatment of neglected infectious diseases implemented in childhood and among women of childbearing age in the Region may protect these vulnerable groups from acute and chronic illness and premature death and reduce the risk of disability and stigma;

(PP7) Acknowledging that some neglected infectious diseases are also a risk for the periurban, rural, and agricultural workforce in the Region and impair the economic development of the individuals, families, and communities at risk;

(PP8) Acknowledging that in the Region there is evidence of the elimination and interruption of transmission of several priority neglected infectious diseases and the elimination as a public health problem of other neglected infectious diseases;

(PP9) Acknowledging that some countries that have eliminated neglected infectious diseases have implemented monitoring/surveillance measures for the post-elimination phase to prevent reintroduction or recrudescence and consolidate sustainability;

(PP10) Considering that prevention, elimination, expanded control, and post-elimination monitoring/surveillance of neglected infectious diseases in the Region are possible in each country and territory in the foreseeable future,

**RESOLVES:**

(OP)1. To approve the *Plan of Action for the Elimination of Neglected Infectious Diseases and Post-elimination Actions 2016-2022*.

(OP)2. To urge all Member States, taking into account their epidemiological situation, national context, and priorities, to:

- a) prioritize neglected infectious diseases and their elimination as an important public health priority, promoting an integrated comprehensive response based on PAHO/WHO recommendations and establishing specific targets to face the challenges entailed by these diseases with the goal of eliminating as many as possible by 2022 or earlier;

- b) foster interprogrammatic alliances, initiatives, synergies, and activities within and outside of the health system, engaging all relevant partners and stakeholders, including civil society, in the work of prevention, elimination, control, and post-elimination surveillance of the neglected infectious diseases;
- c) establish specific strategies for integrated surveillance and management of vectors of neglected infectious diseases and for strengthening of the prevention of select neglected zoonoses through a veterinary public health/One Health approach, including collaboration with animal health and production sources, and outreach and educational interventions for neglected key populations and groups living in vulnerable conditions, with involvement of affected communities and key stakeholders;
- d) support promotion of treatment, rehabilitation, and related support services through an approach of integrated morbidity management and disability prevention for individuals and families afflicted by those neglected infectious diseases that cause disability and generate stigma;
- e) support the development of health-related policies, regulations, norms, and capacities at the country level for surveillance, screening, diagnosis, care, and treatment of neglected infectious diseases both within and outside of health care settings (according to evidence-based normative guidance developed by PAHO and WHO) and ensure their implementation, monitoring, and periodic evaluation;
- f) promote inter-country collaboration and coordination in the monitoring of progress towards elimination goals and monitoring/surveillance in the post-elimination phase;
- g) ensure inclusion of medicines, diagnostics, and equipment related to neglected infectious disease elimination in national essential medicine lists and formularies, negotiate expedited importation of medicines with the national regulatory, customs, and taxation authorities, and promote access to them through price negotiation processes and national and regional procurement mechanisms such as PAHO's Regional Revolving Fund for Strategic Public Health Supplies;
- h) strengthen countries' capacity to generate and disseminate timely and quality strategic information (and mapping) on neglected infectious diseases, disaggregated by age, gender, and ethnic group;
- i) support the development of integrated strategies for provision of safe water, basic sanitation and hygiene, health promotion and education, vector control, and veterinary public health based on intersectoral approaches, taking into account and addressing the social determinants of health, for elimination of neglected infectious diseases and assume a leadership role to champion such access at the highest level of authority;
- j) eliminate gender, geographical, economic, sociocultural, legal, and organizational barriers that prevent universal equitable access to comprehensive health services for those affected by neglected infectious diseases, following the PAHO Strategy for Universal Access to Health and Universal Health Coverage.

(OP)3. To request the Director to:

- a) establish a technical advisory group on elimination and interruption of transmission to humans of neglected infectious diseases that can advise PASB and, through it, the Member States;
- b) support the implementation of the Plan of Action, especially with respect to strengthening services for innovative and intensified disease surveillance and case management (surveillance, screening, diagnosis, care, and treatment) and preventive chemotherapy of neglected infectious diseases as part of the expansion of primary health care and universal health coverage in the Region of the Americas;
- c) support Member States in reinforcing national and regional information and surveillance systems on neglected infectious diseases to monitor progress in control and elimination and support decision making in countries according to their epidemiological status;
- d) provide technical assistance to Member States to scale up actions to eliminate neglected infectious diseases, strengthen integrated management of vectors of these diseases, and strengthen the prevention of select neglected zoonoses through a veterinary public health/One Health approach, in keeping with national priorities;
- e) support Member States in increasing access to affordable neglected infectious disease medicines and commodities, including price negotiation processes and other mechanisms for sustainable procurement;
- f) promote strategic partnerships, alliances, and technical cooperation among countries in the Region in carrying out the activities included in this Plan of Action considering the future foreseeable goal of elimination and interruption of transmission among humans of select neglected infectious diseases in the Americas;
- g) present a mid-term evaluation in 2019 and a final evaluation report to the Governing Bodies in 2023.

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

**1. Agenda item:** 4.9 - Plan of Action for the Elimination of Neglected Infectious Diseases and Post-elimination Actions 2016-2022

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

**a) Categories:** 1, Communicable diseases.

**Program areas and outcomes:**

1.3 Malaria and Other Vector-borne Diseases

1.3 Increased country capacity to develop and implement comprehensive plans, programs, or strategies for the surveillance, prevention, control, and/or elimination of malaria and other vector-borne diseases;

1.4 Neglected, Tropical, and Zoonotic Diseases

1.4 Increased country capacity to develop and implement comprehensive plans, programs, or strategies for the surveillance, prevention, control, and/or elimination of neglected, tropical, and zoonotic diseases;

5.1 Alert and Response Capacities (for IHR)

5.1 All countries have minimum core capacities required by the International Health Regulations (2005) for all hazard alert and response;

5.4 Food Safety

5.4 All countries have the capacity to mitigate risks to food safety and to respond to outbreaks.

**3. Financial implications:**

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

Approximately US\$ 41,543,000, or an average of \$6,924,000 annually (from the Regular Budget and/or extrabudgetary funds), needs to be invested in PAHO technical cooperation to implement the Plan of Action for the period 2016-2022 in order for the institution to respond to country needs and develop and maintain partnerships. The annual average cost of the plan is to serve eight general disease program areas (Chagas disease, leishmaniasis, leprosy, neglected infectious diseases [NID], entomology, veterinary public health [VPH], International Health Regulations (IHR), and operational/implementation research), including all proposed professional staffing. No new professional posts are created to implement the plan, but those posts and positions currently authorized in the PAHO Human Resources plan. The investment to directly support national programs and regional activities constitutes approximate 60% of the total budget.

Continual funding from WHO HQ and principal partners/donors will be needed for the plan during its life cycle, and separately national governments will need to be prepared to continue, and in some cases scale up, their investments in order to reach the goals of the plan including disease elimination.

- b) **Estimated cost for the 2016-2017 biennium (including staff and activities):** The estimated cost for the 2016-2017 biennium, including staff and activities, will be \$13,846,000.
- c) **Of the estimated cost noted in b), what can be subsumed under existing programmed activities?** A total of \$7,971,140 is dedicated to existing programmed activities.

**4. Administrative implications:**

- a) **Indicate the levels of the Organization at which the work will be undertaken:** Global, regional, subregional, and country levels.
- b) **Additional staffing requirements (indicate additional required staff full-time equivalents, noting necessary skills profile):** It is necessary to sustain for six years the Regular Budget-funded Professional staff, as well as the following nine extrabudgetary-funded staff: two P-4, three P-3, one P-2, and two G-4 under the NID program (including position reclassification costs) and one P-3 under the VPH program.
- c) **Time frames (indicate broad time frames for the implementation and evaluation):** 2016-2022.

## ANALYTICAL FORM TO LINK AGENDA ITEM WITH ORGANIZATIONAL MANDATES

1. **Agenda item:** 4.9 - Plan of Action for the Elimination of Neglected Infectious Diseases and Post-elimination Actions 2016-2022

2. **Responsible unit:** Neglected, Tropical and Vector Borne Diseases Unit (CHA/VT)

3. **Preparing officer:** Dr. Luis Gerardo Castellanos, Unit Chief, Neglected, Tropical and Vector Borne Diseases Unit (CHA/VT)

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

The Health Agenda for the Americas 2008-2017 (paragraphs 22 and 60, and notes 16 and 38) calls particular attention to the significance of NID and the stigma often associated with infection in its Situation Analysis and Health Trends (b) on diseases of poverty and Area of Action (e) about reducing the risk and burden of these diseases, calling out the significance of the neglected infectious diseases and stressing the importance of the prevention and control of a group of 14 NID.

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

The PAHO Strategic Plan 2014-2019 includes in Category 1 (Communicable Diseases), Program Areas 1.3 and 1.4, the elimination of onchocerciasis in four countries and the elimination of vectorial transmission of Chagas disease in 21 countries by 2019, and increasing diagnosis and treatment coverage for different clinical forms of leishmaniasis, leprosy, lymphatic filariasis, schistosomiasis, soil-transmitted helminthiasis, and trachoma under Outcomes (OCM 1.3 and 1.4) of increasing the capacity of countries to develop and implement comprehensive plans, programs, or strategies for the surveillance, prevention, control, and/or elimination of malaria, other vector-borne diseases, and neglected, tropical, and zoonotic diseases.

Among the nine Impact Goals of the Strategic Plan, the prevention, control, and elimination of priority NID will contribute directly to attaining Goal 8 (eliminate priority communicable diseases in the Region) and will support Goals 1, 3, and 6, respectively to improve health and well-being with equity, ensure safe motherhood, and reduce mortality due to communicable diseases.

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

Chagas disease: WHO CC: *Instituto Nacional de Parasitología “Dr Mario Fatała Chabén,”* Argentina; Ministry of Health of Santiago del Estero, Argentina; *Centro de Investigaciones de Plagas e Insecticidas (CIPEIN)*, Argentina; national institutions: CDC, USA; IDRC, Canada.

Human cysticercosis/taeniasis: WHO CC: *Liga Chilena contra la Epilepsia*, Chile.

Leishmaniasis: WHO Collaborating Center (CC): *Fundación Centro Internacional de Entrenamiento e Investigaciones Médicas (CIDEIM)*, Colombia; national institutions: *Instituto Oswaldo Cruz* and *Instituto Nacional de Infectología Evandro Chagas-Fundação Oswaldo Cruz*,

Ministry of Health, Brazil; *Instituto Nacional de Medicina Tropical*, Ministry of Health of the Nation, Argentina; *Programa de Estudio y Control de Enfermedades Tropicales*, *Universidad de Antioquia*, Colombia.

Leprosy: WHO CC: *Instituto Lauro de Souza Lima* and *Fundação de Dermatologia Tropical y Venereologia “Alfredo da Matta” (FUAM)*, Brazil; national institutions: International Leprosy Missions; Nippon Foundation/Sasakawa Memorial Health Foundation; International Federation of Anti-Leprosy Associations (ILEP).

Lymphatic filariasis: national institutions: CPqAM/FIOCRUZ, Recife, Brazil; CDC, USA; University of Notre Dame, USA.

Onchocerciasis: international institutions: OEPA/The Carter Center and Mectizan Donation Program, USA; USAID, USA; CDC, USA.

Plague: CDC, USA; Pasteur Institute, France; Pasteur Institute, Madagascar.

Rabies: WHO CC: Canadian Food Inspection Agency, Canada; *Instituto Pasteur de São Paulo*, Brazil; CDC, USA; Thomas Jefferson University, USA; Wistar Institute, USA; national institution: Ministry of Health of Brazil.

Schistosomiasis: WHO CC: Case Western Reserve University, USA; national institutions: Ross University, St. Kitts and Nevis; WINDREF St. George’s University, Grenada.

Soil-transmitted helminthiases: WHO CC: McGill University, Canada; national institution: IPK, Cuba.

Trachoma: WHO CC: Johns Hopkins School of Medicine, USA; ITI, USA; INS, Colombia.

Disease elimination: CDC, USA; International Task Force for Disease Eradication, Carter Center, USA; Task Force for Global Health, USA.

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

Among the six countries with a national plan for combating NID, Honduras was the first and that set the example for other countries in the Region, followed by Brazil and Colombia. Honduras was a key example on how to scale up to reach national coverage for deworming of STH. Since 2013, Brazil has completed three years of implementation of a nationwide annual NID campaign, and in 2015 the country screened more than five million schoolchildren for leprosy and trachoma and provided preventive chemotherapy for soil-transmitted helminthiases and treatments for children who screened positive. Schistosomiasis was added to the preventive chemotherapy campaign in 2015 in some pilot areas and will be scaled up in 2016. Colombia has undertaken a major effort to find and treat all persons with trachoma, while Mexico is completing its dossier of evidence that blinding trachoma is eliminated, Guatemala is evaluating its last known focus, and Brazil is planning for a national trachoma survey to assess the country’s current status. The Chagas disease-endemic countries have a 23-year history of South-South cooperation, and Argentina has established three WHO Chagas disease collaborating centers supporting other countries in the Region. Colombia, Ecuador, and Mexico have eliminated transmission of onchocerciasis; Guatemala is preparing for a visit by an international verification team; and Brazil and Venezuela are cooperating closely to stop transmission in the Yanomami focus. Meanwhile, the new WHO technical guidelines for verification of elimination of onchocerciasis are based largely on the successful experiences and practices in this Region. Brazil has established model national leprosy surveillance and treatment services and has recent evidence suggesting that it has met the global target to eliminate leprosy as a public health problem after intensifying its control and elimination efforts. Brazil, Colombia, and

Honduras have demonstrated strong efforts to tackle leishmaniasis in their border areas and have established robust surveillance and reporting systems. Haiti and the Dominican Republic are collaborating closely to eliminate both lymphatic filariasis and malaria from the island they share, even though both face severe national resource shortages as they attempt to reach elimination. Colombia, Honduras, Mexico, and Peru have stepped up efforts to tackle *Taenia solium* transmission systematically with the goal of elimination of this form of the disease, and local governments in Bolivia continue to step up control of fascioliasis through preventive chemotherapy. The endemic Andean countries are intensifying their efforts to eliminate dog-mediated human rabies and prevent deaths from plague.

**8. Financial implications of this Agenda item:**

The estimated cost of the full implementation of the plan is US\$ 41,543,000 over the plan's six-year life cycle (2016-2022). Thus, the plan will cost an average of US\$ 6,924,000 per year, to serve eight general disease program areas (Chagas disease, leishmaniasis, leprosy, NID, entomology, veterinary public health, International Health Regulations/plague, and operational/implementation research).

Continuous funding from WHO HQ and principal partners and donors will be needed for the plan during its life cycle, and separately national governments will need to be prepared to continue, and in some cases scale up, their investments in order to reach the goals of the plan including disease elimination.

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