PAN AMERICAN HEALTH ORGANIZATION
WORLD HEALTH ORGANIZATION

52nd DIRECTING COUNCIL
65th SESSION OF THE REGIONAL COMMITTEE

Washington, D.C., USA, 30 September-4 October 2013

Provisional Agenda Item 7.4

CD52/INF/4 (Eng.)
17 July 2013
ORIGINAL: SPANISH

G. TOWARDS THE ELIMINATION OF ONCHOCERCIASIS (RIVER BLINDNESS) IN THE AMERICAS

Background

1. Onchocerciasis is an infection produced by the parasite *Onchocerca volvulus* that is transmitted to humans by bites from flies of the genus *Simulium*. The disease causes itching, dermatological deformations, loss of vision, and blindness. The prevalence and the intensity of microfilaraemia significantly increase with age, but no association has been found with the gender of those affected *(1, 2)*.

2. Onchocerciasis is endemic in 13 foci located in six countries of the Americas (Brazil, Colombia, Ecuador, Guatemala, Mexico, and Venezuela). The number of people exposed to the risk of infection and blindness has decreased from approximately 1.6 million in 1996 *(3)* to 379,234 in 2013 (see Annex A).

3. In 1991, the Directing Council of the Pan American Health Organization (PAHO) adopted Resolution CD35.R14 related to the elimination of onchocerciasis in the Americas. The donation of medicines in the required amount and for the necessary time—announced in the Ivermectin Donation Program in 1987—was designed to contribute to the elimination of the disease. In 1993, with the support of PAHO, the Onchocerciasis Elimination Program for the Americas (OEPA) was created to pool the efforts of partner agencies with a view to achieving the elimination of the disease and providing technical and financial assistance to national programs. The goal was reaffirmed in Resolutions CD48.R12 (2008) and CD49.R19 (2009), which set 2012 as the year to achieve the goal of eliminating ocular morbidity and interrupting transmission of the disease in the Region.

4. This Progress Report submitted to the Governing Bodies of PAHO in 2013 sets forth the challenges that must be overcome to attain the goal set for the Region and to sustain the accomplishments achieved to date.

Achievements

5. Blindness caused by onchocerciasis has been considered to be eliminated in the Region of the Americas since 1995, as no new cases have been reported since that year. As a result of the regional initiative, as of 2013, 184,310 persons are considered as being no longer at risk, since the disease has been eliminated in the seven foci listed in Annex B. In the Yanomami region of Brazil and Venezuela, 20,495 persons are eligible to receive treatment, while 354,207 are living in post-treatment epidemiological surveillance zones (Annex B). The transmission of onchocerciasis has been eliminated in seven foci and interrupted in four, which means that in these 11 foci, mass drug administration has been suspended (Annexes A, B, and C), and the goal established in Resolution CD48.R12 has been reached.

6. Colombia is the first country in the Americas and in the world to have eliminated the transmission of onchocerciasis, and in July 2013 received official verification from PAHO/WHO to that effect. Ecuador confirmed that transmission was eliminated, and in July 2013 formally requested verification from PAHO/WHO.

7. Guatemala and Mexico will complete their three years of post-treatment epidemiological surveillance in all of their foci in 2014 and, depending on the results of epidemiological assessments, could then request verification from PAHO/WHO.

8. In its focus in the Amazon, Brazil has been implementing a quarterly treatment regimen (4x/year) *(4),* in highly-endemic and meso-endemic communities since 2010 in order to accelerate the elimination process, while continuing the traditional regimen (2x/year) in the rest of the communities, bringing the country close to the goal of elimination.

9. Venezuela has interrupted transmission in two of its three foci. It will complete three years of post-treatment epidemiological surveillance in its North-Central focus in 2013 and could achieve elimination. Venezuela has also initiated post-treatment epidemiological surveillance in the Northeastern focus in 2013. In the Southern focus, where transmission continues, 9,615 people in 205 communities in Yanomami endemic areas are eligible for treatment. In highly-endemic and meso-endemic communities, Venezuela is implementing the quarterly treatment regimen (4x/year) *(4),* while continuing the two-round regimen in the rest of the communities.

10. Through scientific articles published in indexed journals *(4-13)*, the countries have moved forward with the dissemination of scientific evidence that supports the achievements attained. In addition, since 1996, corresponding data are published annually in WHO's *Weekly Epidemiological Record*.

11. The guidelines and procedures developed by OEPA with the participation of PAHO have been adopted by WHO and used in the countries where onchocerciasis is endemic.

Challenges

12. The Yanomami focus, shared by Brazil (Amazon focus) and Venezuela (Southern focus), is the final major challenge to eliminating onchocerciasis from the entire Region. This focus presents particular difficulties: *(a)* a population and geographical area split by a political border; *(b)* a difficult physical access in both countries (jungle area); and *(c)* the affected communities are nomadic. Accordingly, the logistics required to reach this endemic area involves high logistic and operational costs, which currently makes it difficult to provide comprehensive care to the communities and achieve the required treatment coverage.

13. Another challenge is to ensure that once transmission of the disease has been interrupted, the countries: *(a*) continue surveillance activities to detect potential recrudescence *(14)*; *(b*) document the process and request verification from PAHO/WHO once elimination is achieved, as was done by Colombia; and *(c)* address the challenges of the post-elimination period.

Next Steps

14. In view of the current situation analyzed in this report, the following steps are recommended going forward:

(a) Issue a strong call for coordinated binational action in the Yanomami area (Southern focus in Venezuela and the Amazon focus in Brazil) for political decision-making that supports the implementation of the actions necessary for elimination of the disease. Furthermore, a plan of operation should be defined for the next five years, and treatment and comprehensive care should be provided in order to meet the goal to interrupt transmission in 2015 and eliminate onchocerciasis in 2019 (Annex C). This should be carried out within the framework of protecting Yanomami territories and employing an intercultural approach *(15, 16).*

(b) During the three years of post-treatment epidemiological surveillance, promote the adoption of education and community participation methodologies through the integration of other public health programs and the maintenance of monitoring and evaluation in order to document and sustain the goal of elimination.

(c) During the post-elimination phase, maintain an ecosystems approach that considers the determinants of health and includes epidemiological surveillance activities. This should be accomplished by integrating interventions to address neglected infectious diseases other than onchocerciasis and continuing to strengthen self-sustainability, primary care services, and the integrated sectoral and intersectoral approach (access to health services, education, housing, safe water, and basic sanitation).

(d) Recommend that OEPA, with support from PAHO/WHO and in coordination with the six endemic countries and partner agencies, lead the impact assessment of elimination of onchocerciasis from the Region of the Americas and promote the publication of lessons learned so that they can support the elimination of other diseases.

Action by the Directing Council

15. It is requested that the Directing Council take note of this Progress Report and formulate additional recommendations that it considers pertinent.

Annexes

References

1. Vivas-Martínez S, Basáñez MG, Botto C, Rojas S, García M, Pacheco M, Curtis CF. Amazonian onchocerciasis: parasitological profiles by host-age, sex, and endemicity in southern Venezuela. *Parasitology*. 2000;121(5):513-25.

2. Vivas-Martinez S, Basáñez MG, Grillet ME, Weiss H, Botto C, García M, Villamizar NJ, Chavasse DC. Onchocerciasis in the Amazonian focus of southern Venezuela: altitude and blackfly species composition as predictors of endemicity to select communities for ivermectin control programmes. *Trans R Soc Trop Med Hyg*. 1998;92(6):613-20.

3. World Health Organization. Onchocerciasis, progress towards elimination in the Americas. *Wkly Epidemiol Rec* 1996; 71:277-279.

4. Rodríguez-Pérez MA, Lutzow-Steiner MA, Segura-Cabrera A, Lizarazo-Ortega C, Domínguez-Vázquez A, Sauerbrey M, Richards F Jr, Unnasch TR, Hassan HK, Hernández-Hernández R. Rapid suppression of Onchocerca volvulus transmission in two communities of the Southern Chiapas focus, Mexico, achieved by quarterly treatments with Mectizan. *Am J Trop Med Hyg*. 2008;79(2):239-44.

5. Cruz-Ortiz N, Gonzalez RJ, Lindblade KA, Richards FO Jr, Sauerbrey M, Zea-Flores G, Dominguez A, Oliva O, Catú E, Rizzo N. Elimination of Onchocerca volvulus transmission in the Huehuetenango focus of Guatemala. *J Parasitol Res*. 2012:638429. [Epub 2012 Aug 23].

6. Cupp EW, Sauerbrey M, Richards F. Elimination of human onchocerciasis: history of progress and current feasibility using ivermectin (Mectizan(®) monotherapy. *Acta Trop*. 201;120 Suppl 1:S100-8. Epub 2010 Aug 27. Review.

7. Rodríguez-Pérez MA, Unnasch TR, Domínguez-Vázquez A, Morales-Castro AL, Peña-Flores GP, Orozco-Algarra ME, Arredondo-Jiménez JI, Richards F Jr, Vásquez-Rodríguez MA, Rendón VG. Interruption of transmission of Onchocerca volvulus in the Oaxaca focus, Mexico. *Am J Trop Med Hyg*. 2010;83(1):21-7.

8. Rodríguez-Pérez MA, Unnasch TR, Domínguez-Vázquez A, Morales-Castro AL, Richards F Jr, Peña-Flores GP, Orozco-Algarra ME, Prado-Velasco G. Lack of active Onchocerca volvulus transmission in the northern Chiapas focus of Mexico. *Am J Trop Med Hyg*. 2010;83(1):15-20.

9. Gonzalez RJ, Cruz-Ortiz N, Rizzo N, Richards J, Zea-Flores G, Domínguez A, Sauerbrey M, Catú E, Oliva O, Richards FO, Lindblade KA. Successful interruption of transmission of Onchocerca volvulus in the Escuintla-Guatemala focus, Guatemala. *PLOS Negl Trop Dis*. 2009;3(3):e404. Epub 2009 Mar 31.

10. Rodríguez-Pérez MA, Lizarazo-Ortega C, Hassan HK, Domínguez-Vásquez A, Méndez-Galván J, Lugo-Moreno P, Sauerbrey M, Richards F Jr, Unnasch TR. Evidence for suppression of Onchocerca volvulus transmission in the Oaxaca focus in Mexico. *Am J Trop Med Hyg.* 2008 Jan;78(1):147-52.

11. Lindblade KA, Arana B, Zea-Flores G, Rizzo N, Porter CH, Dominguez A, Cruz-Ortiz N, Unnasch TR, Punkosdy GA, Richards J, Sauerbrey M, Castro J, Catú E,

Oliva O, Richards FO Jr. Elimination of Onchocercia volvulus transmission in the Santa Rosa focus of Guatemala. *Am J Trop Med Hyg*. 2007 Aug;77(2):334-41.

12. Vieira JC, Cooper PJ, Lovato R, Mancero T, Rivera J, Proaño R, López AA, Guderian RH, Guzmán JR. Impact of long-term treatment of onchocerciasis with ivermectin in Ecuador: potential for elimination of infection. *BMC Med*. 2007;23(5):9.

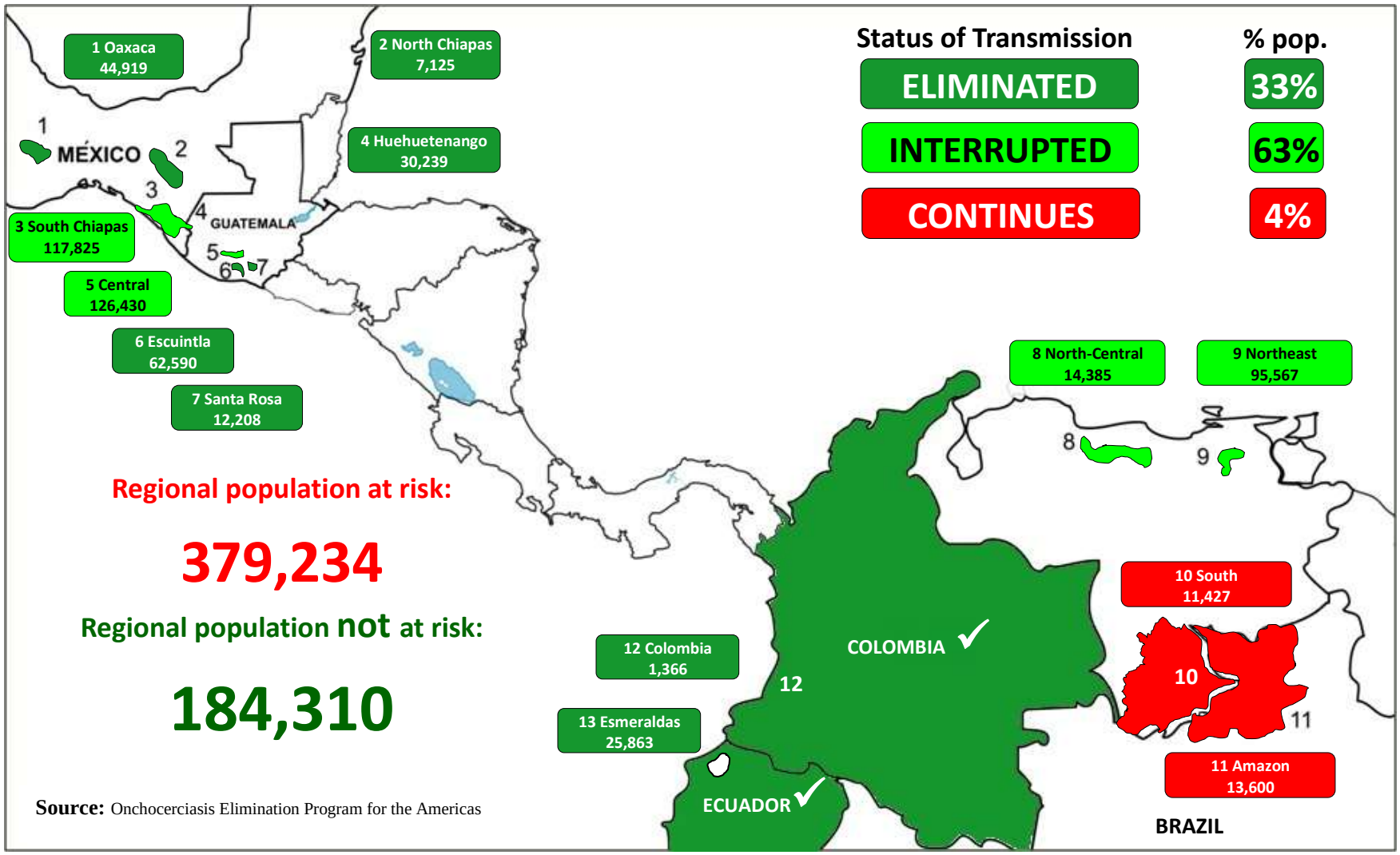
13. Cupp EW, Duke BO, Mackenzie CD, Guzmán JR, Vieira JC, Mendez-Galvan J, Castro J, Richards F, Sauerbrey M, Dominguez A, Eversole RR, Cupp MS. The effects of long-term community level treatment with ivermectin (Mectizan) on adult Onchocerca volvulus in Latin America. *Am J Trop Med Hyg*. 2004;71(5):602-7.

14. Program Coordinating Committee and OEPA staff. Guide to detecting a potential recrudescence of onchocerciasis during the posttreatment surveillance period: the American paradigm. *Research and Reports in Tropical Diseases* 2012;3:21-33.

15. Organization of American States. Interamerican Commission on Human Rights [Internet]. Informe anual de la Comisión Interamericana de Derechos Humanos, 1984-1985, Capítulo III, Resoluciones relativas a casos individuales, Resolución No. 7615 (Brasil) 5 de marzo de 1985. Washington (DC), United States: CIDH; 1985 (OEA document/Ser.L/V/II.66) [accessed 15 February 2013]. Available at: www.cidh.oas.org/annualrep/84.85sp/Brasil7615.htm.

16. United Nations. Office of the High Commissioner for Human Rights. International Covenant on Economic, Social and Cultural Rights [Internet]. United Nations General Assembly, 21st period of sessions; 20 September to 20 December 1966; New York (NY) United States. New York: United Nations: 1966 (United Nations Treaty Series, Vol. 993, 3 – entry into force 3 January 1976) [accessed 15 February 2013]. Available at: www.unhcr.org/refworld/docid/3ae6b36c0.html.

Geographical Distribution of Onchocerciasis and the Status of its Transmission in the Americas, April 2013

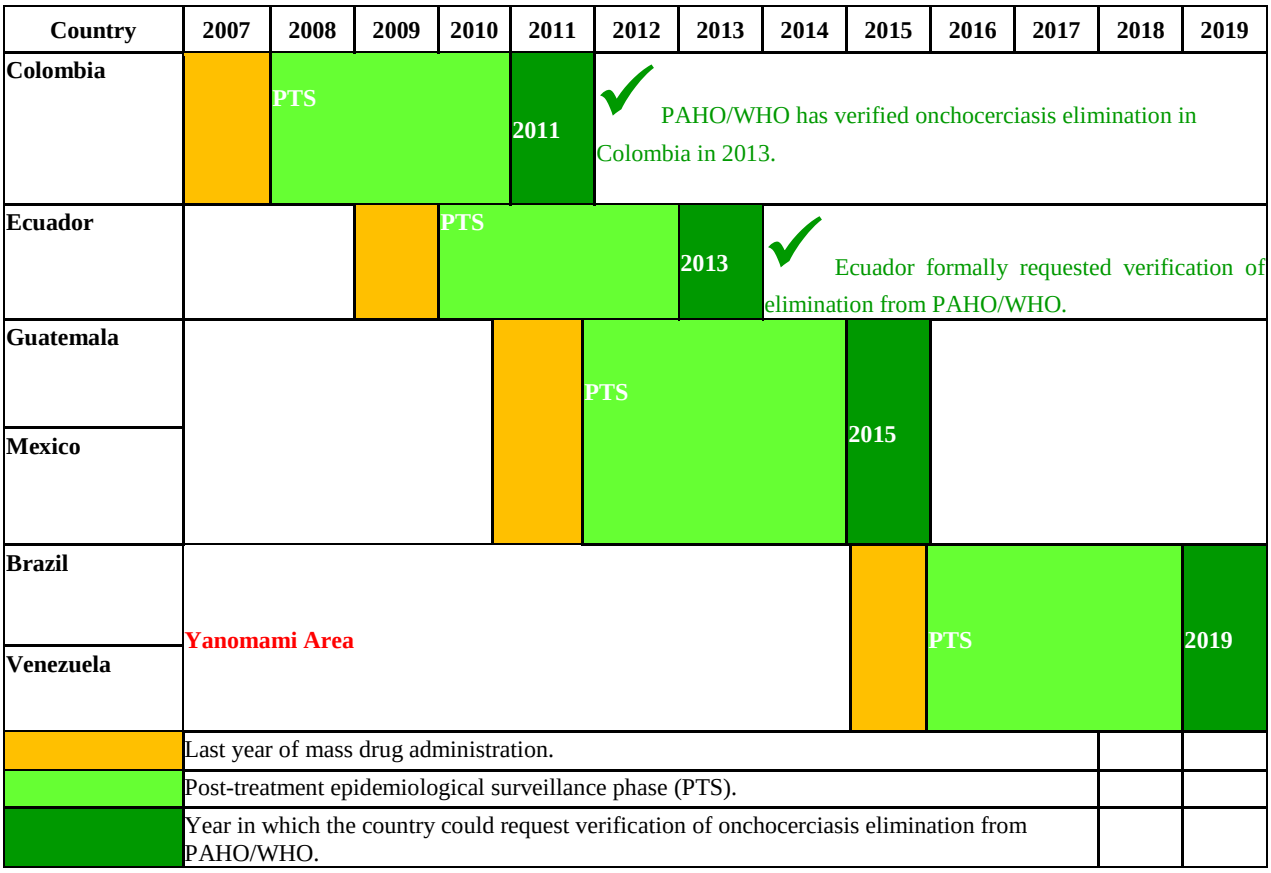


Current Status of Ocular Morbidity and Its Transmission in the Region of the Americas, 2013

Focus	Endemic communities	Population at risk	Population not at risk	Population under post-treatment epidemiological surveillance	Population eligible for treatment	Status of transmission
Escuintla—GUA	117		62,590			Eliminated
Santa Rosa—GUA	37		12,208			Eliminated
Northern Chiapas—MEX	13		7,125			Eliminated
López de Micay—COL	1		1,366			Eliminated
Huehuetenango—GUA	43		30,239			Eliminated
Oaxaca—MEX	98		44,919			Eliminated
Esmeraldas—ECU	119		25,863			Eliminated
Central—GUA	321	126,430		126,430		Interrupted
Southern Chiapas—MEX	559	117,825		117,825		Interrupted
North-Central—VEN	45	14,385		14,385		Interrupted
Northeastern—VEN	465	95,567		95,567		Interrupted
South—VEN	10	11,427			9,615	Continues
Amazon—BRA	22	13,600			10,880	Continues
Total	1,850	379,234	184,310	354,207	20,495	

Source: Onchocerciasis Elimination Program for the Americas

Expected Timetable to Achieve the Elimination of Onchocerciasis Transmission in the Endemic Countries in the Americas



Source: Onchocerciasis Elimination Program for the Americas (OEPA).

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