

ECTOPARASITIC DISEASES IN THE REGION OF THE AMERICAS

Developing a Roadmap to Determine
the Regional Epidemiological Situation
and Identify Actions to Reduce the Impact

Belo Horizonte, Brazil, 29-30 July 2019

PAHO



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Americas

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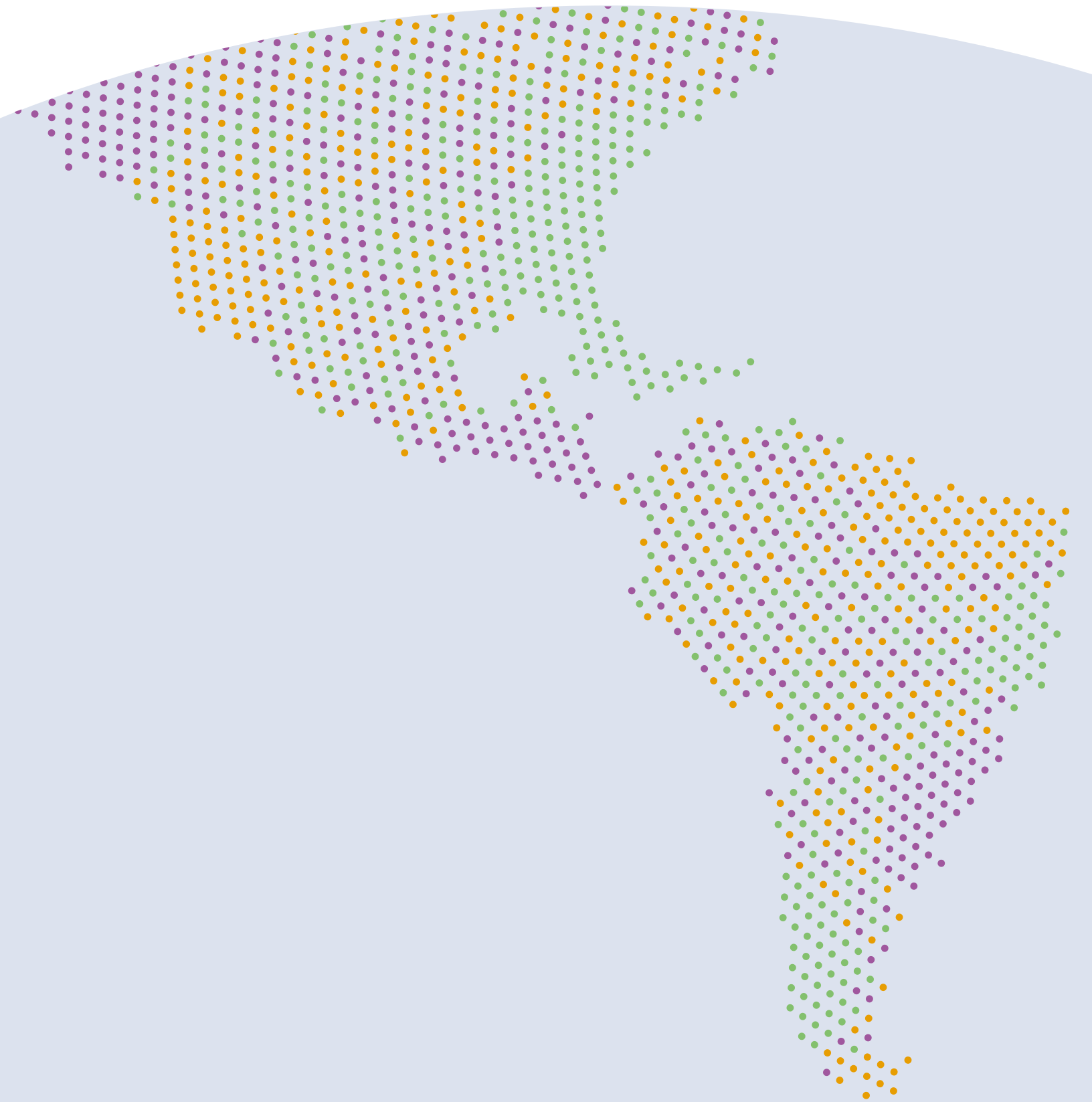
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During the 55th Directing Council of the Pan American Health Organization (PAHO) in 2016, the *Plan of Action for the Elimination of Neglected Infectious Diseases and Post-elimination Actions 2016-2022* ([document CD55/15](#)) was approved. One of its objectives was to evaluate the regional epidemiological situation of other neglected infectious Diseases, including ectoparasitic infections. Within this framework, and given the need to identify actions to advance toward the established objective, the meeting on “Ectoparasitic diseases in the Region of the Americas: Developing a Roadmap to Determine the Epidemiological Situation and Identify Actions to Reduce the Impact” was held in Belo Horizonte (Brazil) on 29-30 July 2019. The meeting participants (see Annex) recommended the implementation of actions in three main components: epidemiological mapping and surveillance, integrated interventions, and operations and applied research.

Based on the experiences presented by the delegates of Brazil and Colombia, as well as the results of a review of literature on the epidemiological characteristics of ectoparasitic diseases in the Region of the Americas carried out by PAHO’s Regional Program on Neglected Infectious Diseases,¹ it was decided that tungiasis (caused by *Tunga penetrans*), scabies (caused by *Sarcoptes scabiei*), and pediculosis capitis (caused by *Pediculus humanus capitis*) would be included in this initiative. In addition, myiasis (caused by *Dermatobia hominis* and *Cochliomyia hominivorax*, carried by more than 30 species of flies) and hookworm-related cutaneous larva migrans (*Ancylostoma caninum*, *Ancylostoma braziliense*, and *Ancylostoma tubiformae*) would also be included.

Following is the proposed roadmap, including its components and recommended actions.

1 The review was conducted in collaboration with Dr. Hermann Feldmeier of the Institute for Microbiology, Infectious Diseases and Immunology of the Charité University of Medicine, Berlin, in 2017. Internal report, publication pending.

1

Integrated mapping and epidemiological surveillance

After reviewing the experiences presented by the delegates of Brazil and Colombia in the mapping and surveillance of these diseases, as well as the experience of a project developed in Malawi for neglected diseases of the skin,² it was concluded that information must be generated to:

- a. Determine the magnitude, distribution, and burden caused by this group of diseases in the Region of the Americas to show that they constitute a public health problem. This includes establishing the prevalence, incidence, morbidity, and severe consequences of these diseases; identifying risk factors associated with exposure and reinfestation (of the person, the dwelling, community spaces, and the general environment and its relationship to the environmental determinants of health); and characterize the seasonality, age distribution, possible animal reservoirs, impact on animals, and additional burden imposed on the family economy.
- b. Understand the dynamics of transmission in order to design and implement integrated interventions, where appropriate, that respond to the specific situation in each territory and affected population group.
- c. Understand how populations in different cultural and social settings perceive the appearance, prevention, treatment, and management of these diseases, so that interventions can be designed that will be acceptable to these communities.
- d. Document the stigma and discrimination caused by these diseases and design interventions to eliminate them.

² Experience presented by Dr. Cristina Galván of the Móstoles University Hospital, Rey Juan Carlos University, Madrid.

The following actions are recommended to advance the integrated mapping and surveillance of this group of diseases:

- a.** Define the criteria for prioritizing geographical areas and population groups for the initial mapping of these diseases (for example, communities where there are reported cases of one or more ectoparasitic diseases, or the most resource-poor communities). Mapping activities will be expanded as resources allow, or as the data improves the ability to identify areas that need mapping.
- b.** Determine recommended scenarios for desk reviews, rapid assessments, community surveillance, environmental health surveillance, sentinel surveillance, or population-based surveys as tools for mapping and surveillance, including details on how to conduct them.
- c.** Prepare simple generic protocols for key aspects that can be used in several countries and for different diseases in order to advance the mapping. The protocols should include how to define and delimit the evaluation units, sampling units (communities or schools), case definitions, and diagnostic methods including severity scales, among others. Protocols for the characterization of outbreaks in prisons and institutionalized populations are also needed.
- d.** Define the cut-off points (of prevalence or incidence, for example) for recommending population-wide interventions or for recommending individual case finding and case management for each disease.
- e.** Promote the inclusion of mapping actions in existing platforms for local public health interventions in order to optimize the use of resources.
- f.** Promote the use of electronic platforms to streamline and facilitate data collection and improve data quality. These platforms should be adapted to the needs of countries and the mapping characteristics of this group of diseases.
- g.** Establish and standardize methodologies to train local teams participating in mapping and surveillance in order to ensure standardized implementation of the protocols.
- h.** Identify the required equipment, supplies, and materials that should be available in the countries for proper implementation of the surveys, epidemiological surveillance, and environmental health surveillance.

- i. Promote partnerships in the countries with groups (i.e., other areas within the ministries of health, other national and subnational public institutions, research groups, dermatology centers, World Health Organization Collaborating Centers, etc.) that can support the development of protocols, document review, rapid assessments, community surveillance, environmental surveillance, sentinel surveillance, or population-based surveys, and the training of health workers, etc.
- j. Support the development of operations research to guide epidemiological and environmental mapping and surveillance for this group of diseases.
- k. Promote consensus and dialogue with community leaders and local organizations in the areas in which mapping will be conducted in order to engage them from the outset in addressing this group of diseases.
- l. Anticipate the interventions to be deployed in the areas and populations where the mapping will be conducted; these interventions should be implemented with country financing and appropriate technical support to facilitate access to medicines, supplies, etc.

2

Integrated interventions

Integrated interventions must be developed to control these diseases and maximize the impact on affected populations, with an emphasis on preventing infections, reducing morbidity, and eliminating severe infections.

The following are recommendations for developing and implementing comprehensive interventions to control this group of diseases:

- a.** Identify best practices and create comprehensive packages of interventions for each disease, adapting them to local needs and resources.
- b.** Prepare formal and informal guidelines and recommendations for integrated intervention packages to control these diseases in the countries of the Region. The integrated packages should include interventions for people, animal reservoirs, dwellings, communities, concentrated or institutionalized populations (in schools, prisons, refugee or migrant camps, etc.), as appropriate.
- c.** Identify interventions required for outbreaks in prisons or migrant and refugee camps and other institutionalized and remote populations.
- d.** Develop and implement comprehensive local intervention plans supported by both national funding and the collaboration of partners and stakeholders to control these diseases and reduce harm to the affected populations. These plans should include monitoring and evaluation.
- e.** Review and develop intersectoral mechanisms (health, housing, environment, water and sanitation, and planning, among others) in each country to collectively build simplified tools for intersectoral action to reduce the impact of this group of diseases.

- f.** Develop and implement interventions to eliminate stigma and secondary discrimination due to these diseases, which are differentiated and adapted to the unique characteristics of each affected population group. This would include interventions to eliminate discrimination against affected people in the health services.
- g.** Develop recommendations to monitor treatment interventions (pharmacovigilance and surveillance of efficacy and resistance), coadministration of drugs, use of non-pharmaceutical products, and use of insecticides (environmental impact monitoring), among others.
- h.** Establish actions to manage disabilities and access to rehabilitation services for people affected by these diseases.
- i.** Engage leaders and community organizations in the planning, development, monitoring, and evaluation of comprehensive interventions to control these diseases. Use intercultural dialogue with the affected populations to understand their perceptions of these diseases and develop interventions aligned with their culture, incorporating support from other disciplines such as anthropology.
- j.** Develop recommendations on the collection of information on the interventions in order to ensure that the process is expeditious, thorough, and of high quality in terms of information flow, forms to be completed, data quality control, and coverage, etc.
- k.** Create opportunities for intercountry communication in order to share information on these diseases and develop joint interventions.
- l.** Identify scenarios in which such interventions as mass drug administration are safe.
- m.** Develop recommendations to monitor the interventions in different epidemiological scenarios: trigger indicators, monitoring in situations of low prevalence, of high prevalence, etc., ensuring that they are practical and feasible in remote conditions with high operating costs.
- n.** Develop, implement, and monitor information dissemination, education (on causes of the disease and prevention measures), and communication about this group of diseases, including intersectoral communication. This requires the support of professionals in areas such as anthropology to better understand the educational aspects that must be addressed in different population groups and to evaluate the impact of these actions.

3

Operations research and implementation research

Knowledge about the occurrence of these diseases and possible interventions to address them is still limited. This means there is a need for operations and implementation research in order to:

- a.** Produce evidence to position this topic on domestic, regional, and global agendas.
- b.** Improve and develop mapping tools and integrated interventions.
- c.** Evaluate the impact of integrated interventions.

The following are recommendations to advance operations research and implementation research on these diseases:

- a.** Establish a regional operations and implementation research agenda on priority topics identified by consensus with countries in order to respond to the Region's priorities regarding these diseases.
- b.** Support operations and implementation research to guide interventions and produce evidence on which actions work best in which contexts, including documentation of best practices.
- c.** Advocate for countries to include issues related to these diseases in their research agendas. This includes promoting meetings and partnerships with research groups, universities, and World Health Organization Collaborating Centers, among others, to

support the research needs of the Region (for example, connect with the Special Program for Research and Training in Tropical Diseases—TDR).

- d. Support capacity building in countries so that they can conduct research and produce evidence and information for action. This means encouraging initiatives to publish evidence, for example in a special edition of the Pan American Journal of Public Health, and working with the Latin American and Caribbean Center on Health Sciences Information (BIREME) to make information available on this group of diseases, etc.

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