

Final Report:

Consultation Meeting on a Trust Fund for the Prevention, Control and Elimination of Neglected and Other Infectious Diseases in Latin America and the Caribbean



(Washington, DC, 15–16 December 2008)



Project on the Prevention and Control of Communicable Diseases
Area of Health Surveillance and Disease Prevention and Control
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1. NEGLECTED DISEASES
2. INFECTIOUS DISEASES
3. LYMPHATIC FILARIASIS
4. HUMAN RABIES TRANSMITTED BY DOGS
5. TRACHOMA
6. ONCHOCERCIASIS
7. SCHISTOSOMIASIS
8. SOIL-TRANSMITTED HELMINTHS
9. CONGENITAL SYPHILIS
10. LEPROSY
11. CHAGAS DISEASE
12. DISEASES OF POVERTY

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Contents

Executive Summary	1
Acronyms.....	11
Introduction.....	13
Background	13
Opening Speech by the Director	16
Introductory Remarks: Keynote Speakers	18
Roundtable on Neglected Infectious Diseases: Setting, Burden and Opportunities	20
WHO Global Plan to Combat Neglected Tropical Diseases 2008–2015	20
Overview of Neglected Infectious Disease Burden and Mapping in LAC	23
Opportunity and Interventions to Reduce the Prevalence or Eliminate NIDs in the Americas.....	34
Discussion.....	37
Mini-Sessions on Scale-Up for Neglected Infectious Disease Elimination and Control in LAC	40
What is proposed? First Phase and Second Phase	40
What is the financial gap for a first phase?	41
Local Experience of Lymphatic Filariasis Elimination: The Case of the Municipality of Recife, Brazil....	46
National Experience of Onchocerciasis Elimination – the Case of Colombia.....	48
Questions and Answers/Discussion	51
Panel I: Trust Fund Architecture and Operations	53
Principles, Governance and Eligibility Criteria, Executing Arrangements, Complementary Investments	53
PAHO Strategic Fund	57
Comments from the Countries	58
Discussion.....	61
Wrap-Up and Closing Discussions, Day I	64

Panel II: Implementing Solutions via the Trust Fund.....	66
Setting Goals and Modeling Elimination in LAC.....	66
Frank Richards – Carter Center.....	70
Baseline Mapping: Rapid Assessment of NIDs.....	71
What an Integrated Program Can Look Like in LAC.....	73
Operational Research and Systematic Reviews.....	82
Monitoring and Evaluation, Surveillance.....	85
Discussion.....	87
Country Round Table: Pertinence of Proposed Trust Fund.....	90
Brazil.....	90
Colombia.....	92
Dominican Republic.....	94
Guatemala.....	95
Guyana.....	96
Honduras.....	99
Closing Discussion and Next Steps.....	101
Annexes	107
Annex I: Agenda.....	107
Annex II: List of Participants.....	111
Annex III: Criteria for Considering a Disease as Present in a Country.....	119

Executive Summary

Introduction

This forum, held at PAHO headquarters and in joint partnership with the Inter-American Development Bank (IDB) and the Global Network for Neglected Tropical Disease (NTD) Control, discussed the establishment of a trust fund as an innovative partnership model that would seek to pool public and private resources, as well as individual philanthropists and other benefactors, to support cost-effective neglected infectious disease (NID) prevention, control and elimination efforts, as well as to reduce inequities in health by serving the poorest of the poor in the Region, in full collaboration with the countries, partners and stakeholders.

The forum also discussed the feasibility of a comprehensive approach to combating neglected infectious diseases supporting a combination of interventions including preventive chemotherapy, technical cooperation to improve health information systems, and disease control and elimination programs, liaising with other sectors towards integrated vector management and disease prevention.

The forum considered four major areas of discussion: setting burden and opportunities for NIDs in Latin America and the Caribbean (LAC); scaling-up for NID elimination and control in LAC; the trust fund architecture and operations, and implementing solutions via the trust fund. A brief description, followed by key findings and critical issues that emerged during the meeting are summarized below in relation to these four areas. The full report includes a fifth chapter entitled “Pertinence of Proposed Trust Fund” that documents institutional and programmatic strengths and challenges in the six countries represented in the meeting.

I. Setting Burden and Opportunities

While LAC as a region does not concentrate the greatest burden of diseases of poverty in the world, it does nevertheless present the highest levels of income inequality. Areas that exhibit the most disadvantaged conditions in LAC are similar to the poorer regions of the rest of the world. It is estimated that around 121 million live in poverty (less than 2\$ day) and 50 million people live in extreme poverty (less than \$1/day), most of them living in rural areas, where indigenous and ethnic minorities, the elderly, women, and boys and girls disproportionately suffer the burden of neglected infectious diseases.

NID control should be seen as one of the most important and cost-effective ways to address the Millennium Development Goals (MDGs). Tackling NIDs touches more MDGs than relieving any other single health problem would.

To fight NIDs in the Americas, the forum recognizes three important global targets¹ in relation to the strategies currently available for their control:

- 1) Tool-ready NIDs (ready to control or eliminate, e.g. lymphatic filariasis, onchocerciasis, schistosomiasis, trachoma; soil-transmitted helminths).
- 2) Tool-deficient NIDs [e.g. Chagas, leishmaniasis).
- 3) NIDs tackled through comprehensive strategic approaches.

The challenge for the Region (i.e. the Americas) is to find the links between interventions in order to be able to formulate intervention packages that can be adapted to the different subregional disease patterns in each subregion.

¹ Included in the in WHO Global Plan to combat NTDs for the period 2008-2015

Disease Mapping and Baseline Surveillance

PAHO presented the first set of country profiles describing the epidemiological data available in 14 selected countries where more than one NID is presented. The profiles describe the status of NID mapping in LAC and the agenda for future surveillance needs. Ten NIDs were analyzed, five are considered tool ready, and five are prone to elimination in LAC and only need a scale-up of interventions to achieve it.

Some diseases were analyzed at the first subnational administrative level (lymphatic filariasis, onchocerciasis, schistosomiasis, trachoma, and human rabies transmitted by dogs); and others, at country level (Chagas disease, soil-transmitted helminths, leprosy, congenital syphilis, and neonatal tetanus).

There are other diseases that were not included in the study because they did not meet the criteria for this first phase, [e.g.: they do not have the same level of methods and tool-readiness, do not have very clear strategies for control or elimination, or lack available information at this time—e.g. leishmaniasis, taeniasis, cysticercosis, equinococcosis, and fascioliasis, among others)]. These may be incorporated into the initiative in the next phase.

Main Comments and Conclusions

- A considerable amount of information exists for most of the diseases studied. Despite the problems with the estimations and the different sources of information, there is enough information to start working.
- The map depicting disease overlap shows that there is a very broad area where joint strategies can be constructed, e.g. Brazil, Guatemala, Mexico, or Venezuela. The first subnational level does not generate much information, which is why further disaggregation is of the utmost importance.
- Closing the gap is the aim, as urged by the WHO Commission on Social Determinants of Health. Efforts to fight many of these diseases benefit from interventions in water and sanitation—hence, the importance of partnership with the IDB.
- We have to work on diseases for which elimination is feasible, because they occur in specific foci rather than being generalized throughout the Region. However, we also have to work on other diseases that need to be controlled. In addition, we need to continue to work on research and development efforts to devise new tools and treatments.

Next Steps

- Obtain country validation of the data presented by PAHO in the study with the national profiles on NIDs.
- In the next *International Congress on Tropical Medicine*, an NID workshop for Latin America should be organized where PAHO and the ministries can discuss how this plan would work at the country level.
- For all of the countries in the Caribbean subregion, it is necessary to develop a schedule to come up with a consensus.
- PAHO will organize a meeting to discuss technical issues and obtain consensus on what would be the most effective list of diseases in line for elimination and what criteria—as well as what goals, indicators, and timelines—to use.
- PAHO is presenting a resolution to its Directing Council in 2009 to obtain a consensus with the countries on what is feasible and what criteria, goal, and indicators to use, as well as to obtain commitment from the countries in order to get this adopted and implemented.

- During the first few years, a lot of work should be done to refine the maps and fill in the information gaps at the national and subnational levels. Tailoring the tools to the Region is going to be essential, as is flexibility, in order to address the critical needs of this Region.
- Complementary household-level surveillance could be considered in an effort to estimate the baseline of the disease burden caused by NIDs in the pre-identified 50 to 100 geographic 'hot spots' where NIDs are concentrated.

2. Scale-Up for Neglected Infectious Disease Elimination and Control in LAC

Regional Cost Study on Five Priority Diseases

The study presented by IDB consultants shows that, despite the tremendous amount of funds needed for disease elimination, this amount actually represents quite a low percentage of *per capita* income. The costs would vary from US\$ 0.04 per person in Colombia, on the lower end, to a maximum of US\$ 4.13 per person in Guyana.

The study also points out that in some cases, considerable results could be obtained from dedicating funds from the country itself; while in other cases, additional assistance through subsidies would probably be required.

The study illustrates what the additional costs will be from adding water and sanitation to preventive chemotherapy, given the great differences that have been found among countries. Some countries require infrastructure in a major part of their territory, increasing the cost considerably; but in other cases, the extra cost of water and sanitation will not be of such great magnitude. In such cases, intersectoral interventions will be supported. In this way, treatment measures in a preliminary phase will be aimed at reducing the prevalence of infection; but at the same time, long-term interventions will be implemented to solve the root causes of each disease and will free the countries of the need for continuous investment in medicines.

Main Comments and Conclusions

- Improvements in water and sanitation infrastructure are long-lasting and generate additional benefits, such as reducing the occurrence of diarrheal diseases and improving the overall wellbeing of the population. In this regard, the IDB has just received a donation of 300 million Euros from the government of Spain for water and sanitation programs, with the goal of maximizing health results. Synergies will be necessary to align the selection of countries and areas for health programs, in order to reach the populations most vulnerable to NIDs.
- Synergies are also possible with other sectors, such as education. Primary-school education programs currently carry out deworming programs. Additionally, there is an important link between some of these diseases and the lack of hard flooring and latrines.
- More important decisions have to be made on which interventions will be chosen for implementation, such as water and sanitation and/or community participation, and how the district level is going to be able to bring all these parts together.
- The health sector should collaborate in the prioritization and selection of the most vulnerable populations and in the determination of what is the most adequate and effective intervention in every case.
- At this point, the results from the cost study are mere estimates, subject to change. They will not be identical from country to country. It will be very important to track these costs in order to be as efficient as possible.

Next Steps

- Costing the final list of NIDs.
- Conducting two pilot projects to illustrate the cost levels associated with interventions aimed at addressing NIDs and other diseases.

Successful Country Experiences

The representative from the municipality of Recife, Brazil, presented a local experience on lymphatic filariasis elimination; and the representative from Colombia presented the national experience on onchocerciasis elimination. They pointed out the following as major factors for success:

- Substantive political will/commitment in the country, backed up by World Health Assembly (WHA) resolutions.
- Mass drug administration (MDA) as an effective and viable strategy to maximize impact.
- The fundamental importance of joint actions in the areas of vector control and education to mobilize the population.
- The existence of the Onchocerciasis Elimination Program for the Americas (OEPA) for channeling technical and financial support to national programs.
- The association among OEPA, the Center Carter, the Bill and Melinda Gates Foundation, and the Lions Club International to mobilize funds to finance OEPA.
- The availability of drug donation programs.
- Pre-established and clear elimination objectives and strategies.
- The existence of WHO guidelines for certification of elimination.
- Education and community participation as part of the programs.
- An intersectoral approach (such as community strengthening on organization and food safety in Colombia).
- The role of nongovernmental organizations (NGOs) in collaboration with the national programs.

Trust Fund Architecture and Operations

IDB presented the trust fund's proposed architecture including objectives, financing mechanisms, and selected criteria.

The Four Objectives Proposed

- Establish incidence and prevalence of NIDs in priority subnational areas.
- Scale up rapid-impact health interventions to control and eliminate NIDs (e.g. MDA programs) integrated into primary healthcare systems.
- Support strengthening of national and local health systems by providing technical cooperation.
- Harness the potential of intersectoral approaches for combating the environmental and social factors that are the root causes of NIDs, in order to sustain action in the fight against them. The majority of this work is in the area of vector control.

The Three Financing Mechanisms Proposed

- *Challenge grants*: For national or state-level governments able to provide matching funds.
- *Traditional grants*: For regional, national or state-level governments or NGOs.
- *Bonus grants*: Proposed for entities rewarded for addressing all three types of activities (e.g. MDA, technical cooperation, intersectoral approaches).

The Four Criteria Selected for Anticipated Grants

- Feasibility (program ownership, use of global best practices, integrated approach).
- Well-developed program strategy (builds on existing health initiatives, plans to train health workers, and presents evidence that funds are complementary).
- Focus on health inequities (preference given to municipalities and states with a high disease burden and/or indications of unmet basic needs).
- Explicit targeting of poor and vulnerable populations (which should come naturally because NIDs inherently affect marginalized groups).

Also presented were the main points related to the monitoring and evaluation process (M&E), data quality (external) audit (DQA), and trust fund governance.

Main Comments and Suggestions

- The countries have positively valued the flexibility of the trust fund and shown interest in all types of grants, depending on their situation.
- The need to redefine ‘bonus grants’ that could change to ‘innovation grants’, in order to better capture their catalytic role in rewarding programs that integrate health and education or utilize other intersectoral approaches.
- Bonus grants could include as their target population those people who already have the disease; they could also consider as eligible Joint-country initiatives, intercountry collaboration, and South–South cooperation in areas such as surveillance, training, joint procurement of supplies, and medicines, among others.
- The NID Trust Fund could use the ‘challenge grant’ approach to gain additional funds from other programs, such as the Global Fund (for malaria), matching funds for NTDs, and creating synergy.
- Both kinds of strategies—horizontal and vertical—can easily fall under the umbrella of the grants presented. However, more discussion is needed regarding eligibility for the different kinds of grants when elimination is not going to happen any time soon, as in the case of STH.
- A request was made to assure equity in the distribution of funds. Experiences like *Recorsus* in Brazil have been using mechanisms to separate funds for each country and relating final disbursement with the type and size of the proposal. Small planning or mapping grants could be offered and would make a big difference for some of the small countries that have the least technical capacity.
- Some important questions that need to be addressed will be how to evaluate these grants in terms of their performance. What type of monitoring needs to be done? When do we start looking at effectiveness? How can quality be judged?

- It is worthwhile that all of the countries have different ways to gather and publish data¹. We have to build some guarantees into the mechanism of this trust fund to ensure the quality of the data reported, but these mechanisms also need to be flexible. External audits may be necessary.
- The NID Trust Fund should address procurement issues to ensure effective implementation, because there are only a few producers of NID medicines at the global level. Integration of supply systems for these medicines and effective Regional, country and municipal planning processes are needed to generate, for example, a consolidated Regional procurement process.
- The NID Trust Fund, in relation to drug procurement, can be considered as complementary to the PAHO Strategic Fund, which is not a procurement agency but rather one of technical cooperation. As such, the Strategic Fund cooperates with the countries on procurement issues and supply management, which means working on priority public health problems, defining needs, making estimates, and setting treatment targets. If the countries want to work with this purchasing mechanism, PAHO will make purchases on their behalf as well.

Next Steps

A permanent consultant mechanism for this proposed NID Trust Fund should be integrated, using this initial group who participated in this meeting, in order to continue to work on the proposal and take into account all the comments so that we can offer an improved final version of the trust fund proposal.

3. Implementing Solutions via the Trust Fund

Several major recommendations emerged from this area of work:

Similar Initiatives

USAID (with its President's NTD Control initiative) is an example of an ongoing global initiative that includes the Americas and that has similar objectives to those in the framework of the NID Trust Fund. There are some places in Latin America where the Trust Fund's work might overlap or complement with the President's NTD Control initiative. It is important that we be cognizant of what is going on in the Region to fight these NIDs, in order to be able to develop partnerships based on what is really going on.

Scaling-Down Process

An elimination program not only scales up, but also scales down. It is easy to come in this 'scaling-up' mode from the economic and programmatic side, without thinking of the divergence that occurs from control programs that scale up and sustain themselves, versus elimination programs that eventually have to make a huge effort towards scaling down and—once reaching 0—then have a period when nothing is happening besides surveillance, while they are awaiting certification. However, it is important to consider that scaling-down phases are also expensive and highly technical.

Rapid Assessment Methods

Each disease has developed its own rapid assessment method. For STH and schistosomiasis, the rapid assessment tools look at school-age children, as they represent the highest prevalence of disease. Tools for trachoma, on the other hand, look at preschool-aged children, because that is where you have the best indicators that you can rapidly assess.

¹ The paper about the GAVI initiative published in *Lancet in 2008* tackles the issue of how some countries have issued non-reliable data in order to meet performance-based goals to continue to receive funding.

Integrated Strategy for Prevention, Control and Elimination of NIDs

NIDs are both a cause and a consequence of poverty, affecting the most vulnerable and marginalized populations and communities. For this reason, it is necessary to combat them by using integrated strategies based on a framework of social determinants of health, which also helps to address human rights ramifications.

Having NIDs mapped to the first and second subnational levels give us a powerful tool for visualizing opportunities to control or eliminate “hot spots” and to design and implement integrated programs. In the specific area of NIDs, PAHO and the IDB has been working with several integrated strategies, e.g.:

- The strategy applied in Chagas and leishmaniasis control in Honduras, which is also currently considering piggy-backing by adding on deworming programs in areas where it is currently working and that have a high prevalence of STH.
- The CIDA/PAHO Program on Prevention and Control of Priority Communicable Diseases in South America is currently addressing Chagas and congenital syphilis. Under the PAHO Integrated Management of Childhood Illness (IMCI) program, deworming can be added on without conflict. The Program operates in Colombia, Paraguay, Peru, and Ecuador.
- The *PROGRESA/Oportunidades* program in Mexico—supported by the IDB—focuses on education, health, and nutrition for five million poor. It can be linked to the new NID program, and partnership between the state of Chiapas, the Mexican federal authorities, and PAHO was made possible by a political mandate on NIDs issued by the governor. Successes are already materializing with onchocerciasis and trachoma elimination, the establishment of the Inter-Agency Technical Group on Water Quality, and decentralized collaboration with OEPA and PAHO.
- This integrated strategy works on dealing with water quality (and including sanitation) and health services coverage; maternal mortality; other diseases such as tuberculosis, diarrheal, respiratory infections, and HIV/AIDS could also be linked in.
- The Chiapas project is one of the two pilot projects underway that will provide information on how to design integrated plans for NIDs and on how the trust fund should function. The second pilot will be conducted in Brazil. Priority NIDs are being modeled to estimate the time it will take for control or elimination. The pilot projects will outline key factors for success and also barriers to be overcome with regard to funding flows and institutional and political capacity; they will also illustrate the system-level challenges associated with interventions aimed at addressing NIDs.

Operational Research and Systematic Reviews

- The experience with Chagas disease and the progress made in the Region in filariasis, onchocerciasis, and leprosy control have shown that—provided there is political will and resources allocated for research and evidence-based disease control strategies—the goal of elimination/control is indeed feasible.
- Research on disease causation, epidemiology, control tools, and policy interventions has contributed significantly to controlling the diseases included in this initiative.
- Implementation/operational research is a key tool to support evidence-based program development, scale-up, and sharing information on best practices in the areas of innovation and research.

Challenges of Monitoring and Evaluation (M&E)

- Technical people need to try to simplify M&E so that they are collecting information at the lowest possible cost. This implies learning by doing as we go through these types of exercises.
- From the standpoint of monitoring, we need to come up with simplified approaches to generate valuable coverage data. Monitoring coverage will be important if we use reward-based systems, so some valid and robust measures of coverage are going to be needed.
- Impact indicators will be a big challenge in the Region.
- Recognize that M&E is expensive. We need to look more broadly at M&E and fit it into a context of already-established monitoring programs with the end result of its being ministry driven.
- Make it common knowledge among ministers that, when programs scale down their program costs, these will not necessarily diminish in the same scale—because as program costs decrease, surveillance costs will increase. This may be the most important issue in operational research.
- Develop a framework for those NIDs that are not yet tool-ready to assure that these diseases will not be left behind when moving forward with the tool-ready diseases.
- The additional non-disease-specific benefits that will result from these interventions are an issue that has yet to be addressed. Perhaps at this point, it may be more related to operational research questions than public health practice.

Main Discussion, Comments and Suggestions

- We have reached a consensus on interventions, but we still need to bear in mind that there is a number of groups that this initiative can support in order to develop new tools. For instance, in the case of visceral leishmaniasis, we are currently using the drug developed 40 years ago that has to be administered by highly qualified professionals, because of its severe adverse effects. New and safer drugs are needed that will be easier to administer and will thus allow us to decentralize treatment.
- The integrated approach poses a question: Which of these challenges will the NID Trust Fund support?
- Many M&E initiatives are underway, including the monitoring and evaluation working group that will be meeting at WHO in March 2009. There will be some M&E issues specific to this Region, particularly for those diseases for which we do not have preventive chemotherapy solutions. Again, is this something that the NID Trust Fund will take on, or is it something that should be left to WHO?
- Clearly, proposals for operational research are important. The Gates Foundation is supporting operational research, but how much of this should we consider building into the NID Trust Fund? Perhaps an open source mechanism would be useful to ensure that these issues will also be considered pertinent.
- This global group will think about what would be an appropriate Regional response. For instance, we do a lot of household evaluations on those living in extreme poverty in the Region. It would be useful to take the top 50 to 100 hot spots, start a panel on extremely poor households, and then do comprehensive door-to-door health surveys to map the prevalence of these diseases.

- The IDB could achieve some economies of scale by taking some samples from conditional cash transfer programs targeted at the extremely poor. The IDB is already looking at anemia and food consumption, as well as other factors. Therefore, it would not be that much more difficult to add a survey on these diseases as well.
- A study of health facilities in these areas will be needed to clarify the reasons why children are not being dewormed during these visits. Is it due to a lack of drugs, or perhaps to a lack of political support?
- For this initiative to succeed, we may have to embark on a campaign to spread knowledge about these diseases and gather evidence to help with advocacy. For example, STH is the most common infection in these countries, but this group of parasitic diseases is treated in a rather commonplace way, as if they were part of the normal flora or fauna, rather than as the real problem that they are.
- The best people available for effective advocacy work are those who live in the countries—local resources. Without the support of the ministers, which gained with help from local advocacy groups, local authorities will not support the programs and hence they will not be sustainable.
- Small countries would advocate for a single type of funding mechanism, and for the coordination to be done elsewhere. Countries with small programs are capable of carrying out field work, however, but it is not as easy for them to also be responsible for coordinating with other donors, etc. This might be something worth doing from a more central location: in PAHO, for example.
- From the primary healthcare approach, when talking about MDA, we are dealing with the need to promote general access to medicines. Access to essential drugs has several determinants, e.g. selection, financing, pricing, and the supply system. This NID Trust Fund is going to provide a great opportunity for addressing each of these issues; but there will be many challenges to be faced as well.
- The NID Trust Fund will provide an opportunity for harmonizing selection processes, developing Regional guidelines on recommended treatments, helping promote price negotiations, and consolidating needs and demand. All this will generate market knowledge and help us know who is producing what and at what level; and this will help avoid market fragmentation.

Working Groups

- A series of working groups is recommended to help the NID Trust Fund evolve and achieve its goals through the BMG Foundation grant, specifically through:
 - A Regional M&E working group and other working groups with technical experts will supervise how we were meeting various global goals; and they will report to the global M&E group.
 - A technical working group will have to address the unique technical challenges faced by Latin America, in the approach to both individual diseases and the group of diseases that the group chooses to prioritize.
 - An advocacy and fund-raising working group would be also needed to support efforts at the Regional level. Recognizing that fund-raising in this Region is going to involve different mechanisms, we need to adapt if we wish to meet our goals.

Conclusions

From the global perspective, it is clear that the Region of the Americas has a tremendous advantage in knowing a great deal about neglected infectious diseases, including their magnitude and geographical distribution—information sufficient for scaling up programs aimed at their control or elimination. Enormous technical capacity is available from organizations like the Pan American Health Organization (PAHO), the Centers for Disease Control and Prevention (CDC), and from academic institutions in almost every country. Given this factor, together with a history of previous successes in this Region, it could be suggested that this Region could literally show the way to the rest of the world.

The feedback received during the meeting from national and international stakeholders on the design and implementation of a proposed Trust Fund for Neglected Infectious Diseases in Latin America and the Caribbean was very positive. The trust fund proposal was considered as well crafted and incorporated valuable comments and suggestions from the countries as well as from all the participants at the meeting on a broad range of subjects: mapping, inclusion of other diseases, working on the fund's grant mechanism, ensuring community mobilization and participation, intersectoral action on social determinants of health, inclusion of gender and ethnicity issues, integration with water and sanitation projects, etc.

The types of grants considered by the NID Trust Fund refute the classic argument about horizontal vs. vertical strategies. Both kinds of programs can easily fall under the umbrella of the grants presented. All of the participating countries valued the flexibility of the trust fund as a positive factor.

The proposed NID Trust Fund creates opportunities for a host of different applicant organizations with varying expertise on grant-writing. Acknowledging those differences would in itself reduce an important source of inequity. There might be an avenue to further reduce inequity or catalyze change by providing small planning or mapping grants; this could make a big difference for those countries with the least technical capacity.

During the first few years, a great amount of work needs to be done in refining the maps and estimates. It will be essential to tailor the available tools to the Region and be flexible in addressing its critical needs. There is also a need to start discussions and to think about how to evaluate these grants in terms of their performance.

Given the tremendous technical expertise and capacity in the field within the countries of the Region, the proposed NID Trust Fund will provide an incredible opportunity to bring about a new era of South-South collaboration.

The NID Trust Fund's association with the Inter-American Development Bank (IDB) and the Global Network for Neglected Tropical Disease Control, Sabin Vaccine Institute, will allow synergies for integrating health interventions to provide access to improved water and sanitation systems and for mobilizing and managing the required financial resources.

One of the tools available to assure the necessary political will and mobilize the resources needed to eliminate and control these poverty-related diseases is a resolution of the PAHO Governing Bodies. Although a resolution might not be not enough on its own, once approved it will be given the necessary follow-up.

With political commitment, the resources mobilized and the existing technical capabilities in the Region, the NID Trust Fund will indeed provide a great opportunity to significantly reduce the burden of neglected infectious diseases throughout Latin America and the Caribbean. In achieving its goals, the trust fund will also allow this Region another opportunity to lead the way and act as a pathfinder.

Acronyms

CCS	Coordinated country strategy
CDC	Centers for Disease Control and Prevention of the United States
CENCET	National Center for Control of Tropical Diseases of the Dominican Republic
CIDA	Canadian International Development Agency
CL	Cutaneous Leishmaniasis
DALYs	Disability-Adjusted Life Years
DEC	Diethylcarbamazine
DQA	Data quality audit
GAVI	Global Alliance for Vaccines and Immunizations
GN	Global Network for Neglected Tropical Diseases of the Sabin Vaccine Institute
IACO	Inter-American Conference on Onchocerciasis
IDB	Inter-American Development Bank
IMAI	Integrated Management of Adolescent and Adult Illness
IMCI	Integrated Management of Childhood Illness
IQ	Intelligence quotient
IVM	Integrated vector management
JICA	Japan International Cooperation Agency
LAC	Latin America and the Caribbean
LF	Lymphatic filariasis
M&E	Monitoring and evaluation
MCH	Mother and child health
MCL	Mucocutaneous leishmaniasis
MDA	Mass drug administration
MDG	Millennium Development Goals
MDT	Multidrug treatment
MOH	Ministry of Health
NGOs	Nongovernmental organizations
NIDs	Neglected infectious diseases
NTDs	Neglected tropical diseases
OEPA	Onchocerciasis Elimination Program for the Americas
PAHEF	Pan American Health and Education Foundation
PAHO	Pan American Health Organization
PCC	Program coordinating committee

PEPFAR	President's Emergency Plan for AIDS Relief
PZQ	Praziquantel
QALYs	Quality-adjusted life years
Region	Region of the Americas (capitalized)
Regional	Pertaining to the Region of the Americas (capitalized)
R&D&I	Research, development, and innovation
SAC	School-age children
SAE	Severe adverse events
SAFE	Surgery / Antibiotics / Facial cleanliness / Environmental improvement
SIS	Surveillance information system
STH	Soil-transmitted helminthiasis (the disease)
STHs	Soil-transmitted helminths (the parasites; also called geohelminths)
TF	Trust fund
USAID	United States Agency for International Development
UNICEF	United Nations Children's Fund
US\$	United States dollars (USD)
VL	Visceral Leishmaniasis
WFP	World Food Program
WHA	World Health Assembly
WHO	World Health Organization

Introduction

Background

The neglected tropical diseases (NTDs) and certain other infectious diseases of poverty, that in the context of the trust fund proposal will be referred collectively as Neglected Infectious Diseases (NIDs) – as not all of them are restricted to the tropics – are increasingly recognized as amenable to elimination and intensified control efforts in the Americas. Some of these diseases include river blindness (onchocerciasis), lymphatic filariasis, trachoma, schistosomiasis, soil-transmitted helminthiasis, trachoma and rabies. There is a strong history in the Latin America and the Caribbean Region of successful elimination programs (e.g. polio, measles, and rubella) and the ongoing successful efforts against river blindness and lymphatic filariasis serve as a call to action to address the others. Combating NIDs does not only treat diseases, but also contributes directly to poverty alleviation and the fulfillment of the United Nations Millennium Development Goals.

In this context, the Pan American Health Organization/World Health Organization (PAHO/WHO), jointly with the Inter-American Development Bank (IDB) and the Global Network for Neglected Tropical Diseases organized a meeting to discuss the importance and feasibility of a proposed NID Trust Fund for Neglected Infectious Diseases in Latin America and the Caribbean (LAC) as a strategy to mobilize the resources and political will needed to eliminate and control this large group of poverty-related diseases

General Objective of the Meeting

To obtain feedback from national and international stakeholders on the design and implementation of a proposed Trust Fund for Neglected and Other Infectious Diseases Related To Poverty in Latin America and the Caribbean. Discussions also focused on how to mobilize resources and assure the political will necessary to eliminate and control these poverty-related diseases.

Specific Objectives

- 1) Present the proposed NID Trust Fund and receive feedback from national and international stakeholders
- 2) Share country experiences of relevant NID control programs and approaches
- 3) Determine additional work required to complete the design phase and subsequently launch the initiative.

PAHO Member States Represented

- Brazil
- Colombia
- The Dominican Republic
- Guatemala
- Guyana
- Honduras

Organizations Present

- Alliance for Rabies Control
- APCO Worldwide
- Asian Development Bank
- Bill and Melinda Gates Foundation
- Bitran & Asociados
- Carter Center
- Children Without Worms
- Deworm the World
- George Washington University
- Global Health Progress
- Inter-American Development Bank
- Mectizan Donation Program
- Office of the Senator Robert Menendez
- Office of the Honorable Tommy G. Thompson
- Pan American Health and Education Foundation (PAHEF)
- Pan American Health Organization (PAHO)
- PhRMA
- Sabin Vaccine Institute/Global Network for Neglected Tropical Diseases
- United Nations Children’s Fund (UNICEF)
- United States Agency for International Development
- United States Centers for Disease Control and Prevention
- University of Notre Dame
- University of Copenhagen
- World Health Organization

Also see *Annex II* for a [List of Participants](#).

Structure of the Meeting

Introductory remarks were given by PAHO’s director Dr. Mirta Roses by video, as she could not attend the meeting personally. Dr. Jarbas Barbosa, PAHO’s Area Manager Health Surveillance and Disease Prevention and Control and Kei Kawabata Sector Manager for Health and Social Development at the Inter-American Development Bank, further welcomed the attendees and highlighted the importance and objectives of the meeting.

The first day of the meeting began with a Roundtable on NIDS entitled “Setting, Burden and Opportunities” where representatives from the World Health Organization (WHO), the Pan American Health Organization (PAHO) and the Global Network for Neglected Tropical Diseases (Global Network) offered an overview of their work on the subject of NIDs and of the situation of NIDs in the world and in the Latin America and Caribbean Region specifically.

The roundtable was followed by “mini informational sessions” on the possibilities of scaling up current efforts to control or eliminate NIDs. A representative from the Inter-American Development Bank shared details on what the trust fund proposes in its first and second phase; and the head of Bitrán & Asociados discussed the study that they conducted on the potential costs associated with the scaling-up of efforts in the Region, and to explore what the financial gap would be in the initial phase of the initiative. Representatives from Brazil and Colombia shared their experiences in national NID elimination efforts for lymphatic filariasis and onchocerciasis, respectively.

After a lunch break, the afternoon session was dedicated to the first panel (of two) on the design and function of the NID Trust Fund. Amanda Glassman, of the IDB, touched on the trust fund's technical aspects with regard to principles, governance and eligibility criteria, executing arrangements and complementary investments. This was followed by comments on the proposal by representatives of the PAHO Strategic Fund as well as the Global Health Progress. Patrick Lammie, of the United States Centers for Disease Control and Prevention (CDC) followed with a wrap-up and a closing discussion for the first day.

A reception in Honor of participants was held at the IDB headquarters.

The second day began with the second panel session on the trust fund's design and function entitled "Implementing Solutions via the Trust Fund". Representatives from the CDC, the Carter Center, and the WHO gave presentations on the challenges that would be faced in the first phases of the trust fund, such as with baseline mapping (and the prospect of rapid-assessment methods), setting goals, and modeling progress. This was followed by presentations on the possibility of an integrated program in the Region to combat NIDs and on the importance of operational research and systematic reviews for this purpose, given by PAHO Regional Advisors.

Country representatives went on to give brief overviews of the current situation of NIDs in their countries, as well as insight into their own experiences with programs, and their reflections on the NID Trust Fund proposal. The countries represented were Brazil, Colombia, the Dominican Republic, Guatemala, Guyana and Honduras

The meeting ended with final comments by Drs. Jarbas Barbosa and Kei Kawabata. A reception and dinner in honor of the participants was held at the Mexican Cultural Institute, with a speech by the honorable Tommy G. Thompson, former U.S. Secretary of Health and Human Services and current global ambassador for the Global Network.

Opening Speech by the Director

Dr. Mirta Roses Periago, Director, Pan American Health Organization

Welcome, ladies and gentlemen!

Neglected tropical diseases and certain other neglected infections are a subset of infectious diseases which disproportionately affect poor and marginalized groups and contribute to people's inability to escape the downward spiral of poverty.

Our Region has a strong history of successful disease elimination programs (e.g. polio, measles, congenital rubella syndrome, and endemic goiter) and we recognize it is possible to eliminate other communicable diseases that still afflict our peoples—diseases for which we have the knowledge and tools at our disposal to ensure their virtual disappearance. It is an ethical imperative that we step up the effort to control and eliminate these neglected infectious diseases; help our Region meet the Millennium Development Goal targets; close the Unfinished Agenda by strengthening primary health care; improving equity and addressing gender issues in our Region—all key parts of PAHO's Health Agenda for the Americas 2008–2017.

Today and tomorrow the Pan American Health Organization, partnering with the Inter-American Development Bank and the Global Network for Neglected Tropical Diseases, will hold meetings with representatives of government and experts to consider the establishment of a trust fund to prevent, control and eliminate neglected tropical and other infectious diseases in Latin America and the Caribbean.

Probably many of you have heard of 'neglected tropical diseases', most of which are parasitic diseases. As a group, these diseases primarily afflict excluded communities, women and children, the poor, and indigenous and afro descent groups. These diseases include:

- **Two blinding diseases:** Onchocerciasis and trachoma.
- **Four disfiguring diseases in adults and children:** Lymphatic filariasis, which causes chronic lymphoedema of the legs; leprosy or Hansen's disease; and cutaneous leishmaniasis and Buruli ulcer with their chronic skin ulcers.
- **Three diseases which attack the internal organs:** *Chagas* disease, visceral leishmaniasis and schistosomiasis, which lead to serious organ damage and premature death.
- **The cluster of soil-transmitted helminthiasis:** These affect millions of children and adolescents, stunting their physical growth and cognitive development and reducing their attendance in school; cause anemia in pregnant women and babies with low birth weight—sometimes contributing to the premature death of mother or child in the perinatal period; contribute to reduced productivity in agrarian societies.

To combat these diseases the World Health Organization prepared a Global Plan to Combat the Neglected Tropical Diseases 2008–2015, as an integral part of targeting the Millennium Development Goals, which each WHO Region is implementing.

The goals of the Global Plan are to prevent, control, eliminate or eradicate the Neglected Tropical Diseases by 2015.

The Global Plan has three important targets for this period. The first target is to eliminate or eradicate those diseases included in resolutions of the World Health Assembly and Regional committees (in our

Region this refers to onchocerciasis, lymphatic filariasis, Chagas disease and trachoma.) The second target is to reduce significantly the burden of other diseases (like soil-transmitted helminthiasis and schistosomiasis) through a set of safe, simple and low-cost interventions such as mass preventive chemotherapy for deworming and the therapeutic packages we have for leprosy and trachoma, all currently available to use right now. The third target is to ensure that interventions using novel approaches are available, promoted and accessible for diseases for which we have only a few useful tools (leishmaniasis and Chagas disease).

Dr. Dirk Engels of the Neglected Tropical Diseases Control Department from the World Health Organization Headquarters in Geneva will shortly tell you more about how these three objectives can be achieved globally.

Endemic countries in the Region together with PAHO/WHO and many other partners represented in this meeting are already actively pursuing disease elimination in the Americas, as is the case of onchocerciasis, lymphatic filariasis, leprosy and trachoma. Great strides have been made to date; like the elimination of new eye morbidity and the interruption of the transmission of onchocerciasis that we anticipate to reach by the year 2012.

In Latin America and the Caribbean we are in the process of identifying additional diseases besides the Neglected Tropical Diseases which can potentially be eliminated. These include congenital syphilis, neonatal tetanus and human rabies transmitted by dogs; and more infectious diseases of the poor may yet be added.

This meeting is a first step to create consensus amongst stakeholders to reduce the disease burden associated with these Neglected Tropical Diseases and other Neglected Infectious Diseases, and move more rapidly toward elimination and expanded prevention and control.

This forum, being held today and tomorrow at PAHO's headquarters, discusses the feasibility of a comprehensive approach to combating Neglected Infectious Diseases that would support a combination of interventions including preventive chemotherapy, technical cooperation to improve health information systems, disease control and elimination programs, and liaising with other sectors towards integrated vector management and disease prevention.

This forum and the proposed NID Trust Fund we are discussing represent part of the innovative ways of doing business we are promoting to implement our Region's Health Agenda, in full collaboration with the countries we serve, our partners and stakeholders.

This initiative also includes an innovative partnership model that would seek to pool resources from the public and private and individual philanthropists and other benefactors in an effort to support cost-effective Neglected Infectious Disease prevention, control and elimination efforts, as well as to reduce inequities in health by serving the poorest of the poor in the Region.

We hope that you will give us your frank and thoughtful opinion about the proposed NID Trust Fund and the ways in which we are considering how to combat and eliminate the Neglected Infectious Diseases.

Thank you, and once again, welcome to PAHO!

Introductory Remarks: Keynote Speakers

Dr. Jarbas Barbosa da Silva, Pan American Health Organization

Welcome to the Pan American Health Organization. I am grateful for the presence of Dr. Peter Hotez of the Sabin Institute and Global Network for Neglected Tropical Diseases; of Kei Kawabata of the Inter-American Development Bank; and of Dirk Engels from the World Health Organization in Geneva. Moreover, I would like to thank all of the lecturers and country representatives for being here.

The agenda for these two days is very complete, with round tables and brief presentations. We will review the proposal of the trust fund, as well as speak about the burden of disease that the neglected tropical diseases mean for this Region. The final objective is to achieve a consensus on the proposal, to be able to present it at the Executive Committee in June and in the Directing Council in October.

In our Region, we cannot continue to live with this situation. We have some diseases that when studied at the national level do not appear as public health problems, but upon analyzing them more closely we see that there are populations that are seriously affected, particularly the most impoverished populations. What these diseases have in common is that they are diseases for which we have instruments and interventions that would make it possible to eliminate some of them in five or ten years. That is why we should commit politically in order to obtain these goals.

With this initiative we believe we will continue to help reduce the levels of poverty for the Region. All of us are aware that the relationship between poverty and disease has a double effect: the poor are the ones most affected by these diseases and at the same time, the disease helps to increase poverty in these populations by reducing productivity while adding expenditures that they have to incur due to the disease.

This meeting is very important for PAHO. The three organizations allied in this initiative hope to also be able to work with other institutions that participate in the struggle against NIDs, some of which are here today present. At the conclusion of this meeting we will have an approach that is even more comprehensive, due to this being an excellent opportunity to establish a consensus, not only in terms of political commitment, but also in terms of the possible strategies and instruments that we could use to improve the treatment of these diseases.

I would finally like to thank you for the time and experience that all of you will be sharing with us today, and also express my appreciation to the organizations that, along with PAHO are part of this initiative.

Dr. Kei Kawabata, Inter-American Development Bank

The mandate of the Inter-American Development Bank is to alleviate poverty. The neglected diseases are a problem that persists throughout the Region; but it is, however, a problem that can be tackled through control or elimination. It is fantastic to see this great, growing movement, and to see that a great deal has been achieved since meeting over the summer in Seattle with the Gates Foundation. Among other things, I would like to highlight and express my appreciation for the announcement from the Gates Foundation regarding the donation – it gives us the setting that we need to spend these two days gathered here.

I feel that our partnership has to be even stronger now that we are passing through this financial crisis. In a moment when governments in the Region are thinking about ways of overcoming the crisis, we face a possible reduction of donors and thus we more than ever have to maintain our commitment to fighting the Neglected Infectious Diseases. Working with the Global Network and PAHO, without a doubt we can analyze the projects with the governments and maintain a dialogue with the ministries; not only with those of health, but also with others, such as Finance, so that they can maintain the commitment to fight NIDs as well. Without political will it would be too difficult to maintain the effort, even with the money and technology. It is especially encouraging to see the representatives of the governments here today, since I hope to hear about how we can work with the governments to achieve that commitment.

In this time of international financing crisis we have to be capable of delivering the help to people who need it using the available technologies and ensuring that they are cost-efficient and increasing the coverage in all the countries in the Region. All of the money invested has to become something useful and productive. With a great deal of interest I will be here these two days in order to continue to work in partnership with all of you.

Peter Hotez, Sabin Vaccine Institute/Global Network for Neglected Tropical Disease Control

The debate concerning global health focuses on countries of sub-Saharan Africa and in certain points of Asia, where the impoverished populations live with less than a dollar a day. These countries benefit from the money of the USA's President's initiative for malaria as well as other funds from the G8; and we forget that in Latin America and the Caribbean there also exist 120 million people who live with less than two dollars a day: 47 million live with less than a dollar and 74 million with less than two dollars a day.

The diseases that we will speak about today are found in our Region and generate a burden of disease that is much worse than that generated by AIDS and malaria, however, to date; it is rarely placed on the agenda as a priority. These two days are going to be of great importance not only for the creation of the NID Trust Fund but because there will be an unprecedented dialogue on the poorer populations of our Region, who are those who suffer the most from these Neglected Diseases. The populations most affected are those that include women, young girls and boys, indigenous populations and African descent populations. Many of the presentations of the next couple of days will address the subject of how to distribute resources between diseases for which the goal is the elimination (such as onchocerciasis and lymphatic Filariasis) and diseases that, for being so widespread, in a first stage the goal will be their control (such as is the case for soil-transmitted helminths, schistosomiasis, and Chagas' disease).

The most unfortunate aspect of this situation is to know that the solutions are available and are low-cost, and that for many we also have the science and the instruments to fight them—all we are missing are the funds. For this reason we have to make a serious effort to create the trust fund that makes it possible for us to achieve these goals.

Roundtable on Neglected Infectious Diseases: Setting, Burden and Opportunities

Chair: Dr. Jarbas Barbosa da Silva, Area Manager,
Health Surveillance and Disease Prevention and Control, Pan American Health Organization

WHO Global Plan to Combat Neglected Tropical Diseases 2008–2015

Dr. Dirk Engels, Neglected Tropical Diseases, World Health Organization

NIDs in Context

Neglected infectious diseases (NIDs) disproportionately affect and overlap in poor populations, producing disability and in some cases, premature death. NIDs affect millions of people in this Region and their distribution and combination is more similar to the panorama we see in Africa than to that in Asia.

The list of the NIDs is neither closed nor definitive. However, the list currently used by the WHO is as follows:

→ Protozoan Infections

- Leishmaniasis (visceral/VL, cutaneous/CL, and mucocutaneous/MCL)
- Human African trypanosomiasis (sleeping sickness)
- Chagas disease (American trypanosomiasis)

→ Viral Infections

- Dengue & dengue haemorrhagic fever
- Rabies

→ Bacterial Infections

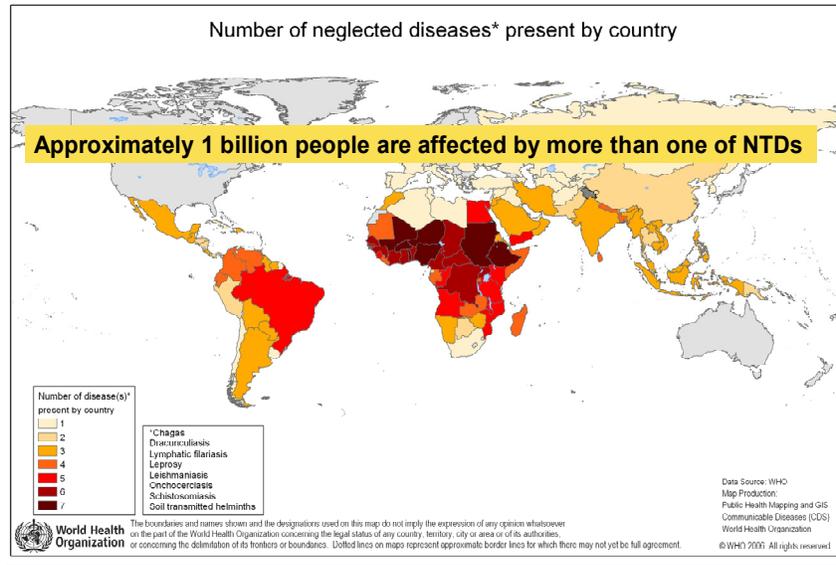
- Leprosy
- Trachoma
- Buruli ulcer
- Yaws, pinta, ...

→ Helminth Infections

- Soil-transmitted helminth infections
 - Ascariasis-trichuriasis-hookworm
- Lymphatic filariasis (elephantiasis)
- Onchocerciasis (river blindness)
- Schistosomiasis
- Dracunculiasis (guinea-worm disease)
- Zoonotic helminthiasis
 - Cestodes
 - Cysticercosis
 - Echinococcosis
 - Trematodes
 - Fascioliasis
 - Clonorchiasis/opisthorchiasis,
 - Paragonimiasis

More than 70% of the countries affected by these diseases are middle- and low-income and 100% of them are affected by at least five diseases at the same time. NIDs are also present in established foci of poverty of some high income countries.

In Latin America and the Caribbean, the burden of disease is smaller than in Africa, for instance, but still important—so much so that the estimates of morbidity can surpass those calculated for HIV/AIDS.



Disease	Estimated Global Disease Burden in DALYs	Number of Cases in LAC (Number of Cases Worldwide)	Estimated Percentage of Disease Burden in LAC	Estimated LAC Disease Burden in DALYs
Total NTDs	56.6 million		8.8%	1,407,900–4,964,000
HIV/AIDS	84.5 million		3.8%	3,211,000
Tuberculosis	34.7 million		2.7%	928,000
Malaria	46.5 million		0.2%	111,000

Hotez P et al. (2008). *PLoS* (2) 9:e300

Soil-transmitted helminth infections represent the greatest burden in terms of the number of affected people. This is followed by Chagas disease and schistosomiasis (which continues to be an important problem in Brazil). Meanwhile, for other diseases we only have limited information (cysticercosis and fascioliasis, for example).

Classification of NIDs

The WHO Global Plan classifies NIDs into groups depending on the control strategies available:

I) Tool-ready NIDs: count on effective and available tools to diminish the burden of disease or in some cases the transmission (in the short term, mainly in the form of mass drug administration (MDA)). For MDA, it is necessary to have an easy and inexpensive diagnosis of the disease, as well as safe and low-cost drugs. In these cases it is desirable to integrate efforts to treat several diseases at once. Tool-ready NIDs include:

- Schistosomiasis
- Soil-transmitted helminthiasis
- Lymphatic filariasis
- Onchocerciasis
- Trachoma
- Zoonotic helminthiasis (cysticercosis, fascioliasis, echinococcosis)

2) Tool-Deficient NIDs: Tools are lacking, or implementation is complex, based on case management, with treatment regimens that need to be administered by specialized personnel. Diseases belonging to this group tend to be fatal or cause high degrees of disability and disfigurement. Tool-deficient NIDs include:

- Leishmaniasis
- Chagas disease
- Human African trypanosomiasis
- Buruli ulcer
- Yaws

3) NIDs Tackled through Comprehensive Strategic Approaches: Diseases are managed through strategic intersectoral interventions such as improvements in sanitation, integrated vector control, the ecology of vectors and veterinary public health among others. This group includes **dengue**, for instance, for which the principal strategy in outbreak prevention is vector control.

Goal, Objectives and Levels of Action

The goals of this plan are to prevent, control, eliminate, or eradicate neglected infectious diseases.

The three main objectives are:

- To significantly reduce the burden of diseases that are tool-ready by expanding the integrated management programs for safe drugs (preventive chemotherapy).
- Eradication of the Guinea worm and elimination of the diseases indicated in the resolutions of the World Health Assembly and Regional committees.
- Intensify control measures with a view towards elimination by means of the available tools; in tandem develop new tools necessary to make the elimination of the diseases sustainable.

Cross-cutting role for NIDs and other sectors and programs:

- To develop multi-intervention packages for disease control
- To strengthen integrated vector management and capacity-building
- To strengthen veterinary public health

The actions in the Global Plan are conducted at various levels:

- *Global:* Advocacy, development of norms and guides, negotiation of timelines, etc.
- *Regional:* Adapting global strategies for the Region, creation of Regional profiles, etc.
- *National:* development of national profiles, integrated action plans, etc.

Next Steps

Goals differ between the short term and the long term. In the short term, the focus is to expand coverage of mass drug administration programs and to guarantee the availability of the tools at the national and subnational levels. Meanwhile, for the long term, the goal is to secure the necessary resources and commitment from the countries to combat NIDs, in a way that control programs remain on the national health plans of endemic countries.

WHO has determined the strategies that can be used and is developing high-quality tools for the rest of the diseases. This meeting is a good way to learn how to increase interventions at the national level, while ensuring the sustainability over time to be able to reach the goal.

At the Regional level, a challenge will be to find the links between different interventions in order to be able to make intervention packages that can be adapted to the different disease patterns of each

subregion. Meanwhile at the global level, WHO is promoting the use of standardized Country Profiles, which will be available on line

The World Report on Neglected Diseases will be presented in December 2009, where the worldwide magnitude of these disease will be detailed, as well as by WHO region, and if possible, by country. This will make all of the current information easily accessible and emphasize the gaps in information.

Overview of Neglected Infectious Disease Burden and Mapping in LAC

Dr. Ximena Aguilera, Coordinator

Communicable Disease Project, Pan American Health Organization

The Study

The idea of creating a trust fund to combat neglected diseases was born at a meeting in June 2008 at Gates Foundation, attended by representatives from the IDB, PAHO, and the Global Network. The work was divided so that each organization contributed with their areas of expertise. As part of PAHO's contribution to this initiative, it was responsible for gathering the available information on the situation of neglected infectious diseases in the Region.

The study, entitled "Provisional Epidemiological Profiles of Neglected Diseases and other infections related to poverty in Latin America and the Caribbean" was presented at the meeting this week, but is still in the process of validation by the countries.

Objectives of the Study

- Determine the presence of the selected diseases as well as the action plans functioning at the national level or at the first subnational level;
- Identify opportunities for integrated approaches;
- Discover overlapping of the selected diseases in the priority countries;
- Identify the information gaps, and
- Provide support to the cost study being carried out by Bitran & Asociados

Time restrictions made it necessary to prioritize some diseases – however, it does not mean that the list of diseases covered by the trust fund is final.

Included in the study were: the five neglected diseases regarded as tool-ready, as well as five other diseases that are near elimination in Latin America and only require a scale up of interventions in order to achieve it. These diseases are:

- **Five Core NIDs:** Schistosomiasis, lymphatic filariasis, onchocerciasis, trachoma, and soil-transmitted helminths.
- **Five Other Infectious Diseases Nearing Elimination in LAC:** Human rabies transmitted by dogs, Chagas disease, leprosy, congenital syphilis, and neonatal tetanus.

The **criteria** used for selecting the countries were:

- a. The presence of one or more NIDs.
- b. Whether the country was classified as one of PAHO's priority countries (based on socioeconomic status.)

The 14 **countries included** were: Bolivia, Brazil, Colombia, the Dominican Republic, Ecuador, Guatemala, Guyana, Haiti, Honduras, Mexico, Nicaragua, Saint Lucia, Suriname, and Venezuela.

Regional Profile

LAC does not contain the greatest burden of disease or of poverty in the world; it does however, display the highest levels of income inequality. Areas that exhibit the most disadvantaged conditions in LAC are similar to the poorer regions of the world. It is estimated that around 50 million people live under extreme poverty, which is concentrated in the rural areas, where indigenous people, the elderly, women and boys and girls disproportionately suffer the burden of neglected diseases.

Taking into account all the countries and territories, the diseases that are most widespread are soil-transmitted helminths, followed by leprosy, Chagas disease and congenital syphilis. Meanwhile, human cases of rabies transmitted by dogs, onchocerciasis, lymphatic filariasis and trachoma are concentrated in small foci.

List of Countries and Diseases Included in PAHO's Study of NID Presence in the Region

Country	Disease									
	Lymphatic filariasis	Onchocerciasis	Schistosomiasis	Trachoma	Soil-transmitted helminths	Human rabies transmitted by dogs	Chagas Disease	Leprosy	Neonatal tetanus	Congenital syphilis
Total number of countries in which the diseases are present* in Latin America and the Caribbean	4	6	4	3	All	10	21	25	16	25
Bolivia	-	-	-	-	X	X	X	X	X	X
Brazil	X	X	X	X	X	X	X	X ^a	X	X
Colombia	-	X	-	-	X	X	X	X	X	X
Dominican Republic	X	-	-	-	X	-	-	X	X	X
Ecuador	-	X	-	-	X	-	X	X	X	X
Guatemala	-	X	-	X	X	X	X	X	X	X
Guyana	X	-	-	-	X	-	X	X	-	X
Haiti	X	-	-	-	X	X	-	X	X ^a	X
Honduras	-	-	-	-	X	-	X	X	X	X
Mexico	-	X	-	X	X	X	X	X	X	X
Nicaragua	-	-	-	-	X	-	X	X	X	X
Saint Lucia	-	-	X	-	X	-	-	X	-	...
Suriname	-	-	X	-	X	-	X	X	-	...
Venezuela	-	X	X	-	X	X	X	X	X	X

^a This disease is only present as a public health problem in this country. - No evidence. ... No information.

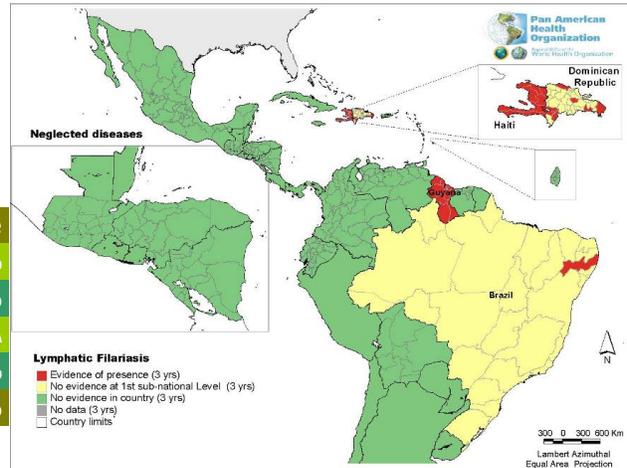
*For criteria for the definition of "presence", see Annex III

Tool-Ready Neglected Infectious Diseases

Lymphatic Filariasis

4 countries
29 administrative units

Country	Pop at risk	Treated	Coverage
BRA	1,700,000	112,700	6.60%
DOR	107,485	99,762	70-85%
GUY	630,000	N/A	N/A
HAI	9,598,000	769,029	19%
TOTAL	12,035,485	981,491	8.15%



Epidemiological Situation in the Region

- There is evidence of foci with active transmission of lymphatic Filariasis in four countries in the Region during the last three years: Haiti, Brazil (State of Pernambuco), Guyana, and the Dominican Republic. Another focus in the state of Alagoas in Brazil was eliminated.
- It is estimated that 12 million people are at risk of infection. The largest population at risk is in Haiti (90%). The disease in Haiti and the Dominican Republic affects mostly populations of African descent who live in low-income areas.

Objective

- To eliminate the disease as a public health problem by the year 2020, to interrupt its transmission and to prevent and control disability.

Indicator

- Less than 1% prevalence of microfilaria in adults in sentinel sites and spot-check sites in the area; no children between ages 2 and 4 are antigen-positive.
- To reach 100% treatment administration in implementation units in endemic areas annually.

Primary Strategies

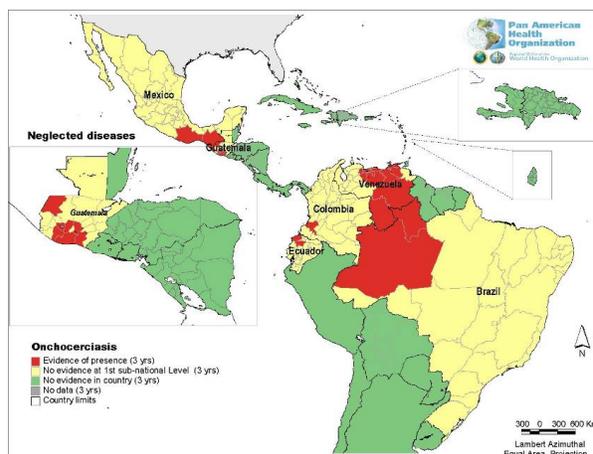
- Mass drug administration once a year for at least 5 years with coverage of no less than 75% or consumption of DEC-fortified table salt in the daily diet.
- Surveillance of LF morbidity by local health surveillance systems.
- Integration/coordination of MDA with deworming, immunization of children and mothers, (IMCI), and/or the distribution of vitamin A and micronutrients.
- Integration with control strategies for leprosy and other skin infections.
- Policy, communication strategies and education in schools.

WHO-Recommended Treatment Interventions	Treatment Interventions Currently Applied
Diethylcarbamazine (DEC) 6 mg/kg (single dose according to age) + albendazole 400 mg, once a year for all the at risk population where prevalence is above 1%	Haiti and Dominican Republic: DEC + albendazole Brazil: DEC Guyana: DEC-fortified Salt

Onchocerciasis

6 countries
13 foci in 2007
6 with evidence of interruption (2008)
25 administrative units

	Pop at risk	Coverage
Areas with transmission	350,894	85% (min.in all foci)
Areas with interrupted transmission	165,213	Does not apply
TOTAL	516,107	



Epidemiological Situation in the Region

- There is evidence of 13 foci in 6 countries in the last 3 years: Brazil, Colombia, Ecuador, Guatemala, Mexico, and Venezuela.
- Among the foci, in six the transmission appears to have been interrupted after massive treatment (1 in Colombia, 3 in Guatemala, and 2 in Mexico). They are currently under surveillance for three years to certify elimination, according to the criteria defined by the defined expert group. In Venezuela, foci extend along 11 departments.
- The largest concentration of people at risk resides in remote communities on the border of southern Venezuela and northern Brazil.
- The disease affects mostly indigenous populations and those of African descent, who live in rural or mountainous areas.

Objective

- To eliminate ocular morbidity and the interruption of the transmission. Goal for the Americas: Interruption of onchocerciasis transmission by 2012.

Indicator

- To reach 85% treatment administration in endemic areas semiannually.

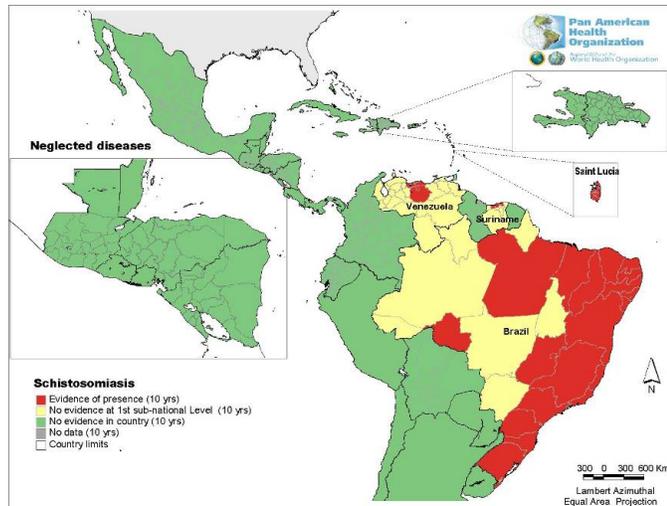
Primary Strategies

- MDA at least twice a year reaching at least 85% of the population in each endemic area.
- Surveillance for signs of ocular morbidity, microfilaria, nodules.
- Dermatological care through primary care system in areas where skin infection is a problem.

WHO-Recommended Treatment Interventions	Treatment interventions Currently Applied
<p>Strategy recommended by the Onchocerciasis Elimination Program in the Americas (OEPA):</p> <ul style="list-style-type: none"> Biannual ivermectin (Mectizan) treatment; single dose (3 mg tablets; 1 to 4 tablets according to weight or height) administered to all the eligible population every 6 months for 10 to 12 years with a minimum coverage of 85%. 	<p>This strategy has been applied in all the existing foci in the Americas in the six countries where onchocerciasis transmission has been documented: Brazil, Colombia, Ecuador, México, Guatemala, Venezuela</p>

Schistosomiasis

4 countries
39 administrative units



Epidemiological Situation in the Region

- The disease is present in four countries in the Region, according to evidence from the past 10 years: Brazil, St. Lucia, Suriname and Venezuela.
- A study suggests that the disease has been eliminated in previously endemic Martinique and Guadalupe. In previous decades the disease was known to exist in Puerto Rico and the Dominican Republic. However, no evidence of its presence has been found for the past 10 years, which may suggest that an epidemiological study is needed to confirm elimination.
- It is estimated that around 25 million people live at risk in the Americas, the majority of this population in the coastal states of Brazil; and around 1 to 3 million people are estimated to be infected.

Objective

- To eliminate as a public health problem (criteria in preparation by expert committee).

Indicator

- To administer chemotherapy to at least 75% of SAC in risk areas.

Primary Strategies

- Chemotherapy for at least 75% of at risk school-age children.
- Improvements of waste systems and drinking water, education.

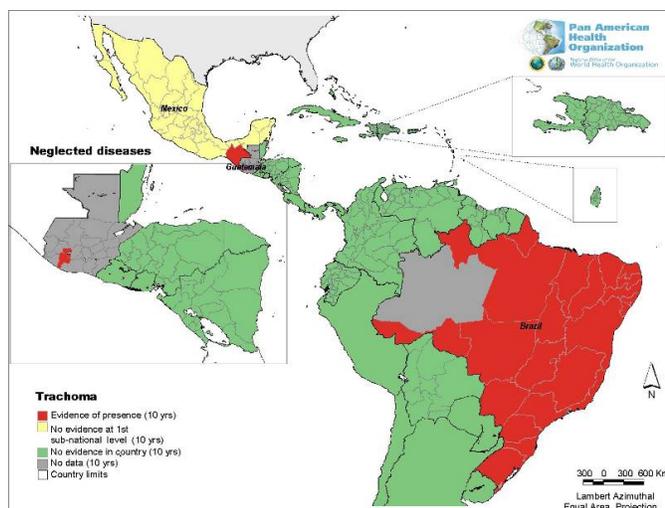
WHO-Recommended Treatment Interventions	Treatment Interventions Currently Applied
<p>Praziquantel 40 mg/kg dose, according to prevalence:</p> <ul style="list-style-type: none"> ▪ High-risk communities: Prevalence of 50% or higher (stool examination): Treat all school age children once a year ▪ Moderate-risk communities: 10 to 50%: Treat all school age children once every 2 years ▪ Low-risk communities: Less than 10% prevalence: treat all school age children during their primary school age 	<ul style="list-style-type: none"> ▪ Brazil and Venezuela: Treatment of positive cases ▪ St. Lucia, Suriname: No information found

Trachoma

3 countries

- Mexico
- Brazil
- Guatemala

29 administrative units



Epidemiological Situation in the Region

- In Mexico, the disease is limited to 5 municipalities in Chiapas of low socioeconomic levels and primarily encountered in indigenous populations.
- In Guatemala trachoma has been reported in 92 communities in Sololá and Suchitepéquez.
- In Brazil, a new national survey is currently being carried out; only one state does not have preliminary data. The survey confirms its presence in all 26 states studied, with an average of 5% prevalence for trachoma. The highest prevalence is in states in the North and Northeast. Foci have been confirmed in borders states of Brazil, but no data about prevalence studies in neighboring countries was found. About 7,000 cases have been identified, most of them in Brazil. It is estimated that around 50 million people living in risk areas and around 1 to 3 million people are estimated to be infected.

Objective

- To eliminate new cases of blindness caused by trachoma.

Indicator

- Reduction of follicular trachomatous to less than 1 case per 1000 adults and less than 5% prevalence in children (1–9 years).

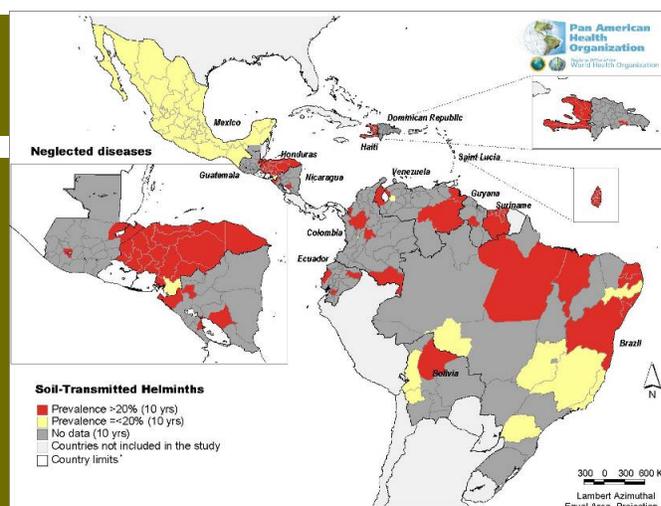
WHO-Recommended Treatment Interventions	Treatment Interventions Currently Applied
<p>SAFE Strategy (Surgery, Antibiotics, Facial cleanliness, Environmental improvement):</p> <ul style="list-style-type: none"> ▪ Surgery: To correct trichiasis and entropion ▪ Antibiotics: Azithromycin single 20 mg/kg dose or tetracycline ointment for cases of active trachoma ▪ Facial cleanliness: Health education program to promote facial washing to prevent trachoma ▪ Environmental Improvement: Improve access to water, use of latrines and other fly control interventions, education leading to better living conditions, moving animals away from the household environment 	<ul style="list-style-type: none"> ▪ Brazil: SAFE Strategy ▪ Guatemala, México: Tetracycline treatment and health education (facial cleanliness)

Soil-Transmitted Helminths

71 administrative units have been found to have a prevalence of 20% or more

6/14 countries have data representing nationwide prevalence of STH in LAC, (Ranges in 1st national sublevel):

- Brazil (2-36%)
- Haiti (15-87%)
- Honduras (12.2-97%)
- Mexico (0.01-16.3%)
- Nicaragua (27-28%)
- Venezuela (3-19%)



Epidemiological Situation in the Region

- STH are present in all the countries of the Region. WHO considers all SAC to be at risk. The population estimated 110 millions of SAC in LAC, 26.3 million without access to improved sanitation.
- Prevalence studies have been conducted in many countries, not all representative of the population; Haiti and Honduras show a nationwide prevalence above 20%.
- WHO recommends a methodology for STH prevalence studies that will support localization in priority intervention areas.

Objective

- To eliminate soil-transmitted helminths as a public health problem (i.e., where prevalence equal or higher of 20% in school-age children).

Indicator

- To administer chemotherapy to at least 75% of school-age children at risk in areas with prevalence equal or higher than 20% in school-age children.

Primary Strategies

- Mass drug administration
- To promote access to safe water, sanitation and health education through intersectoral collaboration. Encourage satisfactory hygienic habits on the part of children.

WHO-Recommended Treatment Interventions	Treatment Interventions Currently Applied
<ul style="list-style-type: none"> ▪ Single dose of albendazole 400 mg or mebendazole 500 mg according to prevalence: ▪ Target Group: School-age children (SAC) <ul style="list-style-type: none"> ○ 50%: treat all SAC at risk twice a year ▪ Between 20 and 50%: treat all SAC at risk once a year ▪ Less than 20%: Selective treatment only for positive cases 	<ul style="list-style-type: none"> ▪ Dominican Republic, Ecuador, Haiti and Nicaragua have MDA (albendazole) and have reached coverage 75% in SAC. ▪ Brazil, Guatemala, Guyana, Honduras: Have MDA national programs (albendazole and mebendazole) and are scaling up. ▪ Mexico: Is applying recommended strategy treatment of positive cases with albendazole ▪ Venezuela: Treatment of positive cases with albendazole and pyrantel pamoate. ▪ Bolivia, Colombia and Suriname: Should implement MDA; Suriname may integrate STH with Schistosomiasis ▪ Brazil, Haiti, and Guyana: Have integrated strategy into the Lymphatic Filariasis Elimination Program (albendazole).

Mapping STHs

In the case of soil-transmitted helminths, despite being the most prevalent diseases in the Region, it is difficult to estimate the prevalence due to the lack of studies. This is due in part to the nature of the data—much like chronic disease surveillance, these diseases are not necessarily acute and so are not, at first, clinically evident.

PAHO has put together an STH database of over 500 prevalence studies. Some countries have national prevalence studies, however, most of the available studies present point estimations of varying quality, however, they can at least point to spots where STH can be considered a problem.

Other Diseases near Elimination in the Americas

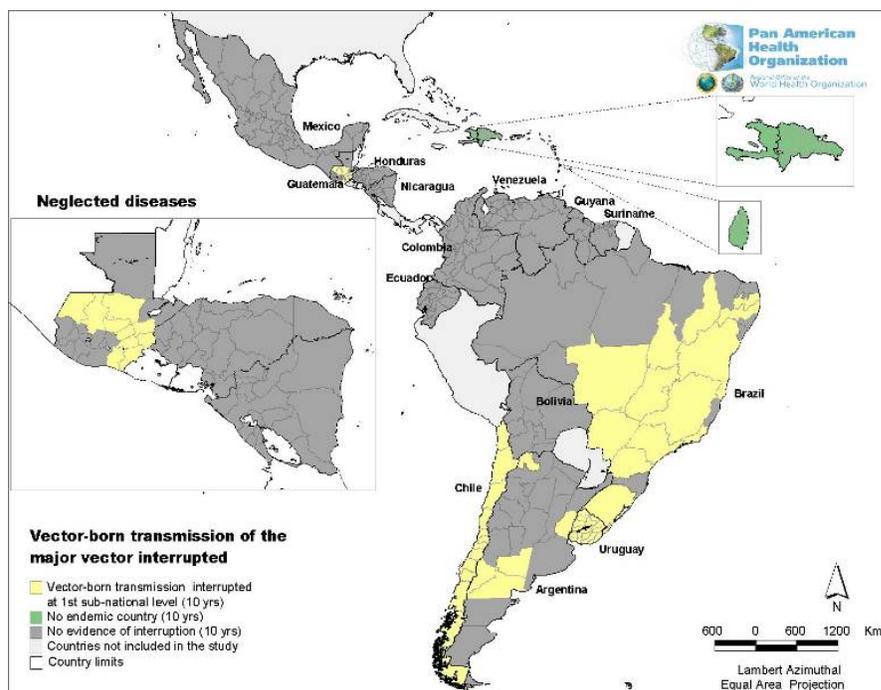
Chagas Disease

Chagas disease is endemic in 21 countries. Vector-borne transmission by the primary vector (*T. infestans*) has been interrupted in some areas of Brazil (2006), Uruguay (2007), some provinces of Argentina (2001 and 2004), and the entire territory of Chile (1999).

In Paraguay and Guatemala the interruption of the transmission by *R. Prolixus* was reached in 2008. These data do not appear in the map since the study includes data up to the end of 2007.

An intense job has been accomplished to control this disease which generates one of the greatest burdens of disease in the Region—threatening people's lives and generating great costs in treatment due to the cardiovascular and digestive complications.

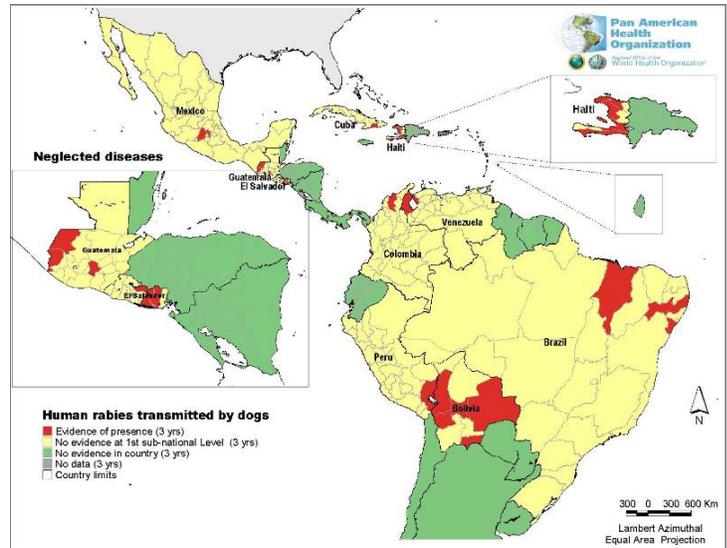
Great progress has been made in eliminating transmission by transfusion. Mass screening in blood banks is being carried out in many countries, 12 of which have reached the goal of screening 100% of blood in its banks.



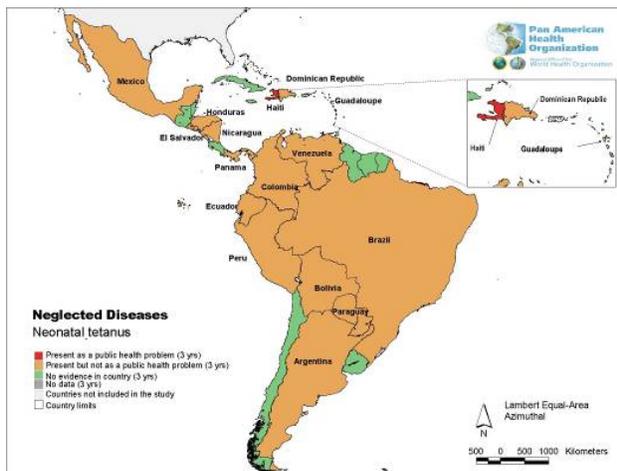
Human Rabies Transmitted by Dogs

There have been cases of human rabies transmitted by dogs in 10 countries, affecting 20 different administrative units, over the past 3 years.

During the last two decades the total cases of rabies have diminished by 90% both in humans and in dogs. Currently, there is a strategy against it and with a scale up of the effective proven interventions elimination of rabies as a public health problem is feasible soon.

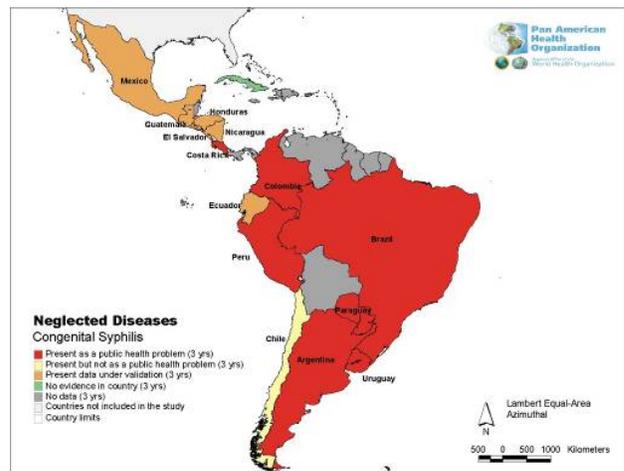


Neonatal Tetanus



Only Haiti has more than 1 case per 1000 newborns per year in a municipality or district

Congenital Syphilis



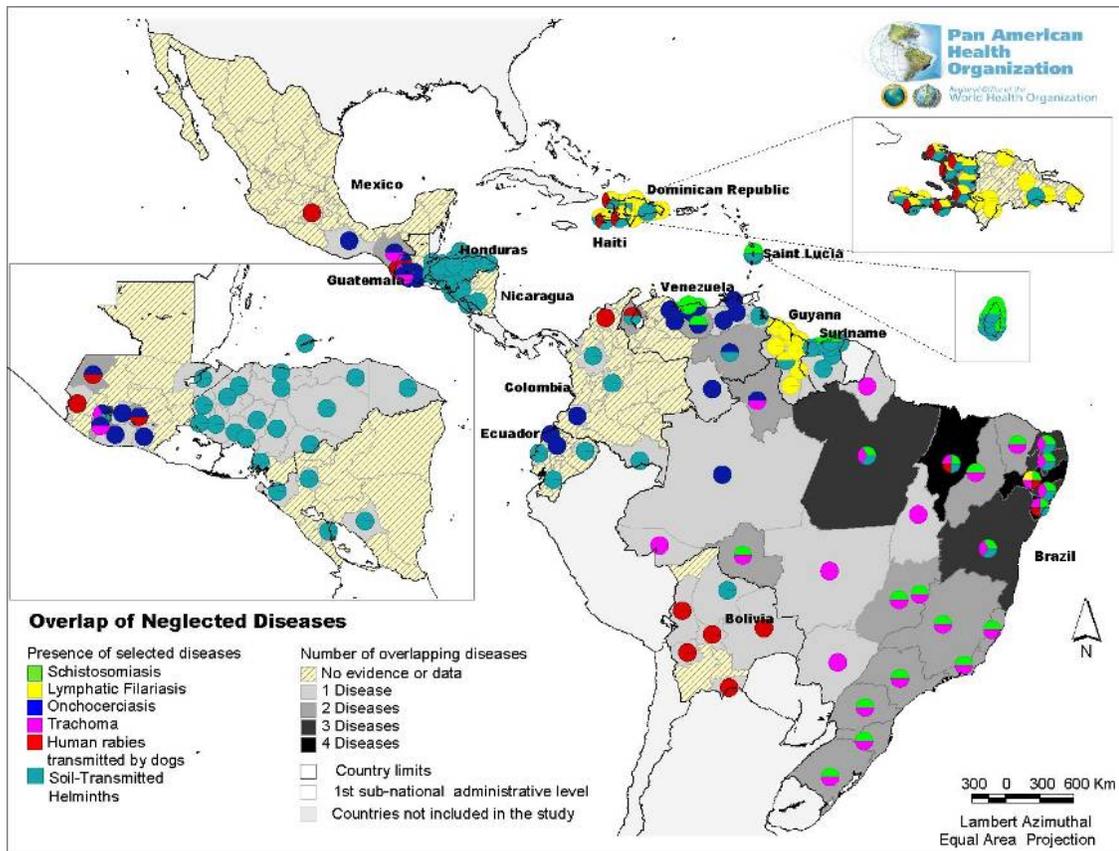
Several countries with more than 0.5 cases per 1,000 live births, considering the disease a public health problem. With a greater effort from the Region, this disease could be eliminated.

Leprosy

Only Brazil presents a prevalence of leprosy higher than the 1/10,000 considered as a public health problem. However when looking at the first subnational level it is observed that also in other countries subnational units with prevalence rates over 1/10,000 exists.



Overlap of Neglected Diseases



The map represents the presence of the 5 diseases included in the overlapping analysis of the study (schistosomiasis, lymphatic filariasis, onchocerciasis, trachoma and human rabies transmitted by dogs) as well as states containing areas where the prevalence of soil-transmitted helminths has been indicated by available studies to be above 20%; highlighting opportunities to carry out integrated approaches (e.g. in areas of Brazil, Guatemala and Haiti).

The overlapping shows:

- Considering the total population of Latin America and the Caribbean—580 million people—almost half (241 million) live in areas at the first subnational level where at least one of the original five diseases of the study is present.
- 3 subnational units with the presence of 4 of the 6 (including STH) selected neglected diseases (all in Brazil): Maranhao, Pernambuco and Sergipe.
- 12 subnational units with the presence of 3 of the 6 selected diseases. Most in Haiti followed by Brazil and one area in Guatemala.
- 41 subnational units with the presence of 2 of the 6 selected neglected diseases. 81 with the presence of 1 of the 6 selected neglected diseases.

Final Comments

- A considerable amount of information exists for most of the diseases studied. Despite the problems with the estimations and the different sources of information; there is enough information to start working.
- Additional baseline studies are needed (up-to-date, at the local level, and using standardized criteria). General “quick and dirty” surveys can estimate prevalence baselines prior to interventions.
- NIDs are present in all LAC countries. Most prevalent are STH, with an estimation of 26 million of school age children (SAC) at risk; followed by schistosomiasis (25 million at risk); lymphatic filariasis (11 million at risk); onchocerciasis 500.000 and trachoma 7000 cases.
- Brazil, Mexico, Guatemala and Venezuela have the most diversity of NIDs, and of the other NIDs with the potential for elimination.
- Elimination of these diseases seems feasible in our Region given that the diseases are focalized and that this Region has a history of previous success.
- This trust fund offers opportunities for integrated approaches. The overlapping maps help to visualize where “hot spots” exist. Other diseases could be incorporated at a later time, following a more integrated approach.
- Intersectoral action is needed. Most of the strategies encountered for the control of these diseases have included mass drug administration and intersectional approaches.
- Efforts against many of these diseases benefit from the interventions in water and sanitation; hence the great importance of our partnership with the IDB and its area of water and sanitation. This initiative will scale up medical and public health interventions in the short term but in the medium and long term, improvement of living conditions of these people is needed in order to prevent the situation from returning to the way it was.
- Closing the health gap is the aim, as is urged by the WHO Commission on Social Determinants. Fighting against NIDs will help to reduce the gap as most of these diseases are localized in the poorest countries and areas. Most of PAHO priority countries show evidence of an important burden of disease by these neglected diseases and there may be others present that have yet to be included in this overlapping analysis.

Opportunity and Interventions to Reduce the Prevalence or Eliminate NIDs in the Americas

Dr. Peter Hotez, Sabin Vaccine Institute / Global Network

In Latin America and the Caribbean 121 million people live on less than 2\$ day and 47 million with less than \$1/day. According to economists from The World Bank, this Region is the one with the highest inequality: the richest 10% of the population earns 48% of total income and the poorest 10% of the population earns 1% of the total income.

NID control shall be seen as one of the most important and most cost-effective ways to address the Millennium Development Goals. Tackling NIDs touches more Millennium Development Goals than relieving any other health problem.

The most common neglected infectious diseases for the bottom billion are reflected in the table below.

Disease	Estimated Cases	% Poor people infected	Ready for elimination
Trichuriasis	100 million	80–90%	NO
Ascariasis	84 million	60–70%	NO
Hookworm	50 million	40–50%	NO
Chagas disease	8–9 million	5–10%	NO
Schistosomiasis	2–7 million	2–6%	NO
Blinding trachoma	1.1 million	1%	YES
Lymphatic filariasis	720,000	1%	YES
Dengue fever	552,000 (2006)	<1%	NO
Cysticercosis	400,000	<1%	NO
Leishmaniasis	67,000	<1%	NO
Leprosy	47,612	<1%	YES
Onchocerciasis	64 (new cases in 2004)	<1%	YES

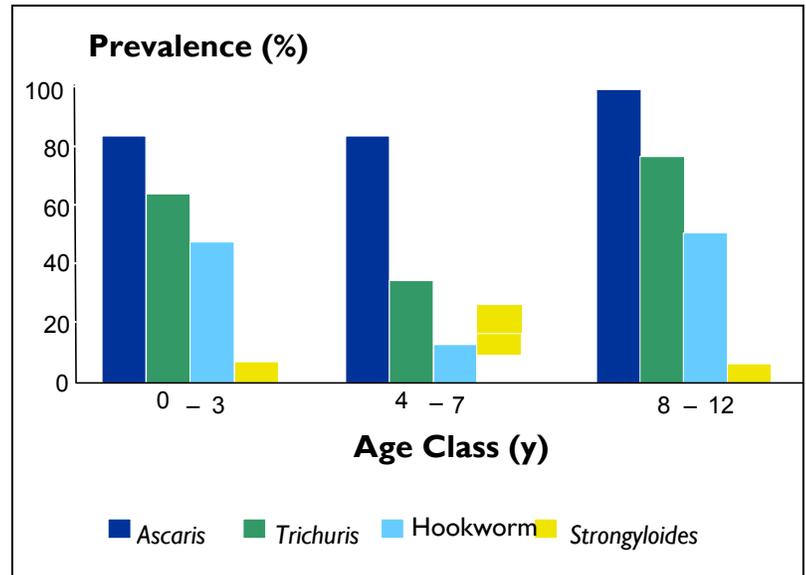
Source: adapted from Hotez et al. PLoS NTDs 2008

- High-Burden NIDs
 - Soil-transmitted helminth infections
 - Hookworm
 - Ascariasis & trichuriasis
 - Schistosomiasis
 - Chagas disease & leishmaniasis
 - Dengue

Soil-Transmitted Helminths and Schistosomiasis

STH are the most common infections among poor people in the Americas. When analyzing stool samples of children in a village of Guatemala we can see this pattern: Nearly 100% of the children are infected with *Ascaris*, this is a pattern that can be seen throughout poor villages in the Americas.

Children have the highest worm burdens: it is between the first and third year of life that people are more likely to be infected by this parasite. These worms have a huge impact on the ability to learn and a huge impact on memory loss. There is a direct relation between the number of worms and the loss in IQ. They also have a profound impact on children's growth (both in weight and height) and when treating this disease, incredible catch-up growth can be observed in these children. Also, a recent study from The University of Chicago showed that hookworm infections lead to a 40% reduction in productivity. In summary, these parasites are destroying the potential of million of children in Latin America and the Caribbean.



STH also have an important impact on other populations, such as pregnant women. Some studies in Sub-Saharan Africa show that many women are infected and that this leads to severe anemia, maternal morbidity and mortality, and also have an impact on fetal survival. Meanwhile, by affecting workers, primarily farmers and fishermen, STH have a great impact on productivity.

It is important to highlight that these STH do not occur in isolation, and there are opportunities for Regional integrated approaches, for example, in cases where schistosomiasis infections overlap STH in a given population.

Elimination is not currently a possibility for STH and schistosomiasis (except for in some areas of the Caribbean). When this is the case, the goal becomes to achieve 'control' through:

- "Deworming"
- Single annual dose of albendazole or mebendazole.
 - + Praziquantel (Brazil, Dominican Republic, Venezuela).
 - High cure rates especially for *Ascaris/Trichuris*.
- Deworming leads to:
 - Improvements in child growth.
 - Improvements in child cognition.
 - Improvements in school performance and school attendance.
 - Improvements in economic development.

Chagas Disease

Chagas Disease is another high-burden disease: some estimations show that there are 8 to 9 million cases but there is still a long way to go until detailed information on the number of cases is available. There is also great morbidity due to long-term complication such as heart diseases and mega colon.

One of the challenges that Chagas disease elimination faces is the impressive diversity of vectors that transmit the infection so that when the primary vector is eliminated, it can be replaced by another vector. For Chagas disease control measures include:

- Insecticides for Vector Control
 - Indoor residual spraying
 - Paints/Bed nets
- Blood Bank Screening
- Treatment of Cases
- Housing Improvement
- Sanitary education

There have also been reports of Chagas disease in USA.

Conclusions

Some estimates shows that the high burden NIDs in the Americas can exceed HIV Malaria and TB burden.

Not only do we have to focus on elimination-ready diseases but we should not forget the high burden NIDs because they contribute to generate and maintain poverty in our Region.

We do have tools to act but on the other hand, their effect is not permanent, there can be resistance to treatments as an example. That is why research and development is also a key point, such as the research efforts being developed in LAC:

Hookworm (& Schistosomiasis)	Sabin Vaccine Institute (Washington, DC, USA) FIOCRUZ, Instituto Butantan (Brazil)
Dengue	Pediatric Dengue Vaccine Initiative (Korea) Instituto Butantan (Brazil)
Leishmaniasis	Infect Disease Research Institute (Seattle, Washington, USA) Instituto Butantan (Brazil)

In summary, for high-burden NIDs we need both:

- Access to Essential Medicines
 - Urgency to maximize the use of existing tools
 - Our moral and ethical obligation to treat the bottom 100 million
- Access to Innovation
 - Equal urgency to support parallel research & development efforts

This trust fund is going to be catalytic and is going to promote access to essential medicines, but discussion about including into the trust fund the access to research and innovation is needed.

Discussion

Eduardo Hage

Consultation with National Entities

- The goals discussed and accepted by this group should be aligned with those established by international or Regional agreements. Also, additional discussions will be needed with the countries on the topic of establishing objectives and goals. On the topic of a resolution, it will also be necessary to discuss with the countries how to tailor that resolution as well as further actions.
- Validation by countries of the data presented by PAHO in the study of national profiles for the NIDs is needed. I suggest that temporal analyses be used given that, for example in the case of rabies transmitted by dogs when there is only a spatial study it is not clear that a reduction has been achieved. A temporal analysis can demonstrate clear trends over the years and allows us to have clear expectations for elimination.

The Study

- It is noteworthy that schistosomiasis and STH are diseases for which the goal is not elimination but to achieve overall coverage in 75% of school age children at risk by 2010, as specified by a WHO resolution. Furthermore, it is necessary to discuss how the attainment of the 2010 goal will be measured, taking into consideration that currently, only a few isolated studies are available.
- For leprosy, the use of prevalence of infection as a monitoring indicator of the situation is no longer recommended. The new trend is to use more sensitive indicators that are able to capture the reduction of the intensity of the infection such as the coefficient of detection in the under-fifteen age group, for example.
- The map with the overlapping of the diseases shows that there is a very broad area where joint strategies can be implemented, especially in countries as Brazil, Mexico or Venezuela. The first subnational level does not generate very much information, which is why further disaggregation is of utmost importance.

Frank O. Richards

Diseases Considered

- An International task force on disease eradication determined taeniasis and cysticercosis as ready for elimination, and these should be considered in the initiative, even if they were not included in the study.
- Zoonotic infections are those infections in which the life cycle of the parasite is hosted in animals; man is involved but not fundamental to the cycle. In the case of cysticercosis (*T. solium*) humans are fundamental to the cycle and the larval form causes great pathology.

Jesús Feris Iglesias

Mapping

- The lack of information on STH prevalence for school age population can be solved by conducting baseline representative studies in the schools before MDA campaigns.

The Study

- The Dominican Republic had cases of human rabies transmitted by dogs in 2008 which were not reflected in the country profile.

Dirk Engels

Mapping

- The year 2010 is the deadline for achieving 75% coverage of MDA in the school-aged population at risk. We will not achieve the goal, and we are still uncertain when it comes to the denominators, however we have to get started even without waiting for having all the denominators. I am a strong believer that while moving forward we will be refining the denominators.
- To my knowledge the WHO lymphatic filariasis protocol is being refined.
- More action is needed regarding taeniasis, cysticercosis, equinococcosis, and I would also add fascioliasis.

Ximena Aguilera

The Study

- The data in the country profiles only went up to the year 2007, which is why rabies cases from the Dominican Republic in 2008 were not included.
- Taeniasis and cysticercosis were excluded from the study due to there being large gaps in the information available. There were great time restraints for the study and when prioritizing we decided to leave these out of the study.

Next Steps

- Consensus is needed among countries on the elimination goals and definitions. PAHO is presenting a proposal in 2009 to reach a consensus with the countries on what is feasible and what criteria to use, as well as on the goals and indicators.

Peter Hotez

NIDs in Honduras

- Better estimations and mapping are clearly needed.
- Our paper¹ also mentioned cysticercosis as a priority and as part of the intersectoral approaches.
- For rabies, it is necessary to decide whether to treat people or to vaccinate the animal population.
- Brazil has an enormous burden and is a key country in this initiative and it is encouraging to observe that the government is aware and is willing to invest into NIDs both for access to medicines and innovation.

¹Hotez, Peter J et al. "The Neglected Tropical Diseases of Latin America and the Caribbean: A Review of Disease Burden and Distribution and a Roadmap for Control and Elimination." *PLoS Neglected Tropical Diseases* 2008, 2.9: e300. Available from <http://www.plosntds.org/article/info%3Adoi%2F10.1371%2Fjournal.pntd.0000300>.

Jarbas Barbosa

Mapping

- Better epidemiological knowledge is needed for these diseases. The Gates Grant will be fundamental to help the countries to develop studies and country profile that will go beyond the national level.
- Brazil is the only country with prevalence at the national that is considered a public health problem for leprosy. However, upon studying the prevalence at the first subnational level we see that, in the Region, there are 21 countries where leprosy carries a high burden in some areas and municipalities.
- We need to have accurate data by disease, as countries sometimes will object to the estimates that we publish. It is important to separate the advocacy from the epidemiological aspect, but always supporting most needed populations.
- Despite the efforts made by countries these years, LAC continues to be the Region with the most inequalities. However, we count with a great number of opportunities due to our health infrastructure and primary health care in addition to strong academic institutions.
- Concerning the political commitment, it should be emphasized that we will present a resolution to the PAHO Directing Council in 2009. Global resolutions are very useful; but sometimes upon taking into account situations like that of Africa, the goals become too limited when applied to a region like ours that could advance at greater speed. It is necessary to adapt the Regional resolutions to the situation of the countries in our Region.

Mini-Sessions on Scale-Up for Neglected Infectious Disease Elimination and Control in LAC

Chair: Kari Stoeber, Sabin Vaccine Institute/Global Network

What is proposed? First Phase and Second Phase

Amanda Glassman, Inter-American Development Bank

Why is it important to act now?

- Epidemiological backlog of infectious disease, predominantly affecting the poor and ethnic minorities.
- Window of opportunity to eliminate selected diseases: Onchocerciasis, lymphatic filariasis, schistosomiasis, trachoma, etc.
- Low coverage of known (cost-effective) interventions (23% of school-aged children treated for STH).
- Synergies with prevention and control of other infectious diseases.
- The opportunities for active, complementary partnerships and technical know-how.
- Trends in development assistance and philanthropy.

Preparatory work involves:

- Gathering information on:
 - The current scale of prevention and control programs *vis-à-vis* needs.
 - The most cost-effective strategies—in combination—for elimination, prevention, and control.
 - The extent of health improvements that can we expect to generate under different scenarios.
 - How much is currently being spent,
 - How much the strategy will cost,

Problems include:

- Limited data available. For instance, only 10 out of 35 countries reported on soil-transmitted helminths in 2007 (PAHO) . This implies that strong assumptions will have to be made while better data is collected.

The first phase of preparatory work involves:

- Mapping prevalence at first subnational level (PAHO)
- Cost study of the 5 priority diseases (onchocerciasis, lymphatic filariasis, schistosomiasis, soil-transmitted helminths, and trachoma) by IDB and Bitran which concluded that 35% of the burden of disease attributable to NIDs.
- Documenting institutional and programmatic strengths and challenges (joint, starting with this meeting)
- Consultation

The second phase of preparatory work includes:

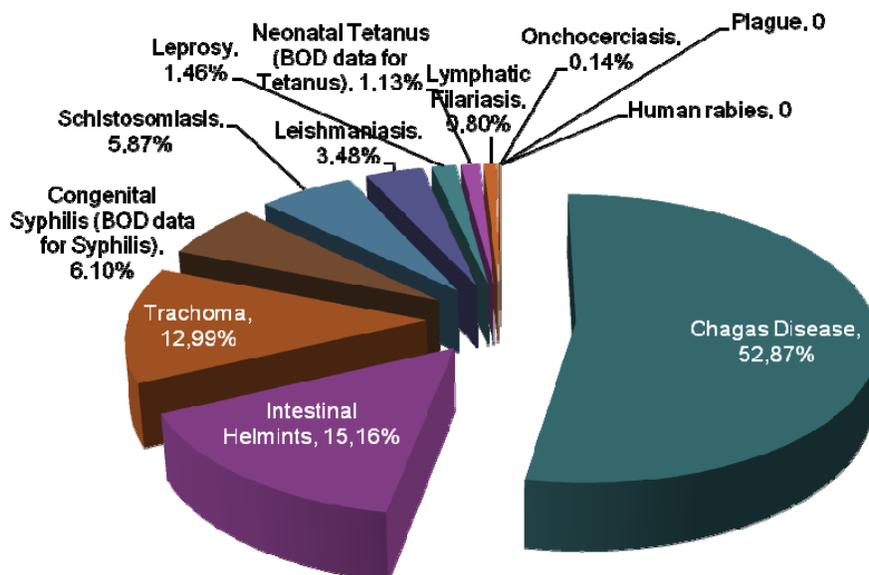
- Continued mapping (at lower subnational entities)
- Costing the final list of NIDs as agreed by group
- Reaching agreement on prioritization
- Case studies on institutional, programmatic and financial challenges
- Design and piloting of trust fund instruments
- Consultation
- Fundraising

What is the financial gap for a first phase?

Ricardo Bitran, Bitran & Associates

This cost study conducted by Dr. Ricardo Bitrán aims to determine the costs associated with the implementation of preventive, control and elimination strategies for a selection of NIDs in the Region. Specifically, the study estimates the number of persons affected by each disease and the amount of extra funding that each country would need to invest to face them.

Burden of disease from NTDs in LAC, 2004 (DALYs)



In this first stage, the study focused on the tool-ready NIDs for which cost-effective strategies are available:

- Intestinal helminths
- Trachoma
- Schistosomiasis
- Lymphatic filariasis
- Onchocerciasis

Objectives and Indicators of NIDs Included in the Analysis

Disease	Objectives	Indicator	Timing
Soil-transmitted helminths	Eliminate STH as a public health problem (prevalence \geq 20% in school-age children)	<ul style="list-style-type: none"> Administer chemotherapy to \geq 75% of school-age children at risk in areas with prevalence \geq 20% in school age-children. 	2010
Trachoma	Eliminate new cases of blindness caused by trachoma	<ul style="list-style-type: none"> Reduce follicular trachomatous to $<$ 1 case per 1,000 adult and $<$ 5% prevalence in children (1–9 years of age) 	2020
Schistosomiasis	Eliminate Schistosomiasis as a public health problem (criteria in preparation by experts committee)	<ul style="list-style-type: none"> Administer chemotherapy to \geq 75% of at-risk school-age children living in risk areas 	2010
Lymphatic filariasis	Eliminate the disease as a public health problem, to interrupt its transmission and to prevent and control disability	<ul style="list-style-type: none"> Prevalence \leq 1% microfilaria in adults in sentinel sites and spot-check sites in the area, no children between ages 2 and 4 are antigen-positive Reach 100% treatment administration in implementation units in endemic areas annually 	2020
Onchocerciasis	Eliminate ocular morbidity and to interrupt transmission	<ul style="list-style-type: none"> Reach 85% rate of treatment administration twice yearly in endemic areas 	2012

Main Strategies Available and Target Population of Selected NIDs

Interventions	Lymphatic Filariasis	Onchocerciasis	Schistosomiasis	Soil-Transmitted Helminths	Trachoma
School-based MDA	-	-	School age children	School-age children	1-10 year old
Community-based MDA	Population in endemic areas	Population in endemic foci	-	-	-
Bednets	Pregnant women, children $<$ 5	-	-	-	-
Eyelid surgery	-	-	-	-	People with Trichiasis
Safe water improvements	-	-	MDG: halve the proportion of people without sustainable access to safe drinking water and basic sanitation between 2000-2015		
Sanitary improvements	-	-			
Passive surveillance	Not included in this phase of costing in agreement with PAHO				
Active surveillance					

Modeling Costs by Disease & Interventions

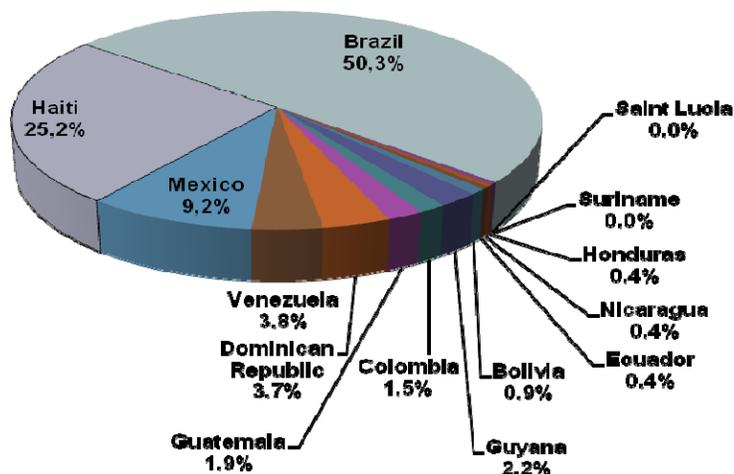
Mathematical models were used to predict effects of interventions on disease prevalence among target populations. These were combined with economic models to predict costs of interventions for each disease and country.

For each disease, a group of interventions was selected and the model includes a cost of implementation year by year for each disease until the goal is achieved.

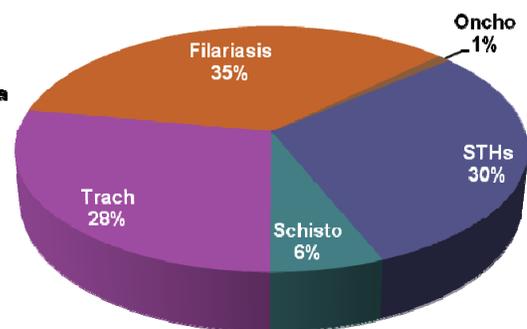
US\$ NPV	STHs	Schisto	Trachoma	Filariasis	Oncho	Subtotal NTD Costs
Saint Lucia	0.01	-	-	-	-	0.01
Suriname	0.01	0.06	-	-	-	0.07
Honduras	0.48	-	-	-	-	0.48
Nicaragua	0.50	-	-	-	-	0.50
Ecuador	0.48	-	-	-	0.07	0.55
Bolivia	1.17	-	-	-	-	1.17
Guyana	0.04	-	-	3.00	-	3.04
Colombia	2.05	-	-	-	-	2.05
Guatemala	1.72	-	0.64	-	0.30	2.66
Dominican Republic	0.62	-	-	4.46	-	5.08
Venezuela	4.31	0.41	-	-	0.50	5.22
Mexico	12.14	-	0.10	-	0.35	12.59
Haiti	0.54	-	-	33.93	-	34.47
Brazil	16.77	8.11	39.95	6.47	0.05	71.35
Total	40.84	8,58	40.69	47.86	1.27	139.23

Distribution of Total Costs by Country and Disease

Distribution of total NTD costs by country

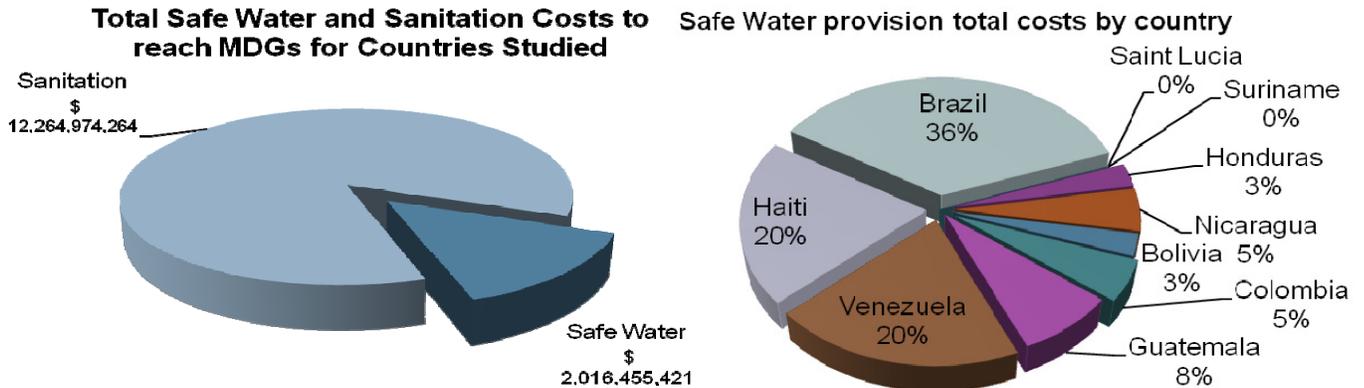


Distribution of total NTD costs by disease

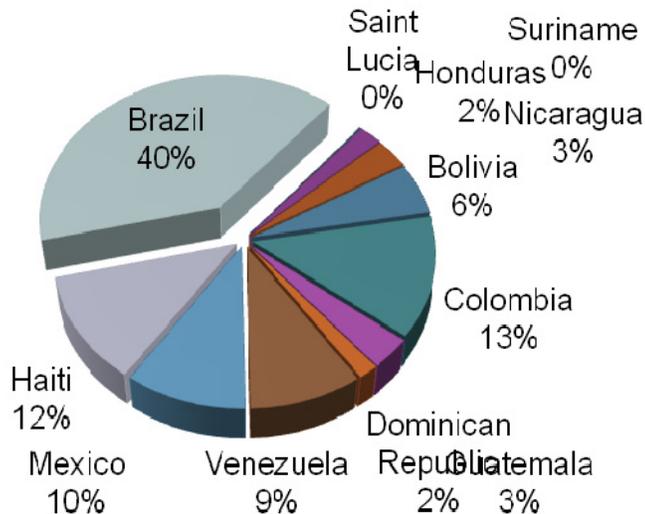


Modeling Costs of Safe Water Supply and Sanitation Improvement

The study calculated the cost associated with the water and sanitation improvement needed to reduce the gap by half.



Sanitation provision total costs by country



Cost Study Results

The study shows that despite the large volume of funds needed for disease elimination, it actually represents a low percentage of per capita income in the countries. The costs would go from 0.04 dollars per person in the case of Colombia, on the lower end, to a maximum of 4.13 dollars per person in Guyana.

The study also shows that in some cases, considerable results could be obtained from the dedication of funds from the country itself, while for others, such as Guyana, additional assistance through classical subsidies would probably be required.

Results

- Total cost of controlling Trachoma in LAC is USD 40.7 million.
- Total cost of controlling the 5 NTDs in LAC is USD 139.2 million.

The study illustrates what the additional costs would be from adding water and sanitation costs to those of chemotherapy, with large variations between the countries. For example, in Haiti, infrastructure would be needed as part of the intervention strategies in a great part of the territory—increasing the cost considerably. Meanwhile, in other cases the extra cost for water and sanitation will be considerably less, as it is the case of Mexico and Guyana. In these cases intersectoral interventions will be supported, so that in a first phase treatment measures will be displayed so as to reduced the prevalence of the infection but at the same time implementing long term interventions that solve the root causes of the diseases and will release the countries of the continuous investment in medicines.

Country	Per capita total health expenditure (THE, PPP int. US\$)	Population (in thousands)	Sub-Total NTD Costs (\$ thousand)	Sub-Total NTD Costs per capita (\$)	Total costs (NTDs + Water + Sanitation, US\$ thousand)	Total costs (NTDs + Water + Sanitation, US\$ per capita)	Total costs per year over 5 years (NTDs + Water + Sanitation, % THE*)
Bolivia	204,00	9.694	1.171	0,12	741.766	76,52	7,5%
Brazil	765,00	194.228	71.346	0,37	5.662.645	29,15	0,8%
Colombia	626,00	46.741	2.050	0,04	1.721.681	36,83	1,2%
Dominican Republic	449,00	9.904	5.084	0,51	202.151	20,41	0,9%
Ecuador	297,00	13.481	553	0,04	553	0,04	0,0%
Guatemala	259,00	13.686	2.655	0,19	580.701	42,43	3,3%
Guyana	264,00	736	3.042	4,13	3.042	4,13	0,3%
Haiti	96,00	9.751	34.474	3,54	1.882.964	193,10	40,2%
Honduras	241,00	7.246	480	0,07	326.810	45,10	3,7%
Mexico	756,00	107.801	12.588	0,12	1.235.767	11,46	0,3%
Nicaragua	251,00	5.676	497	0,09	503.626	88,73	7,1%
Saint Lucia	421,00	167	7	0,04	2.052	12,29	0,6%
Suriname	361,00	461	67	0,15	16.693	36,21	2,0%
Venezuela	396,00	28.122	5.220	0,19	1.540.213	54,77	2,8%

* Total health expenditure (THE).

Conclusions

- Health-care control costs for NIDs seem reachable for most countries.
- In countries with a high burden (Guyana, Haiti) external support needed is modest on a per capita basis.
- Incremental costs of water and sanitation are considerable, and external support is essential for many countries; on the other hand, these infrastructure improvements are long-lasting, generate other benefits apart from the effect that they have on NID prevalence, and improve the overall wellbeing of the population.
- Knowledge of current spending on NIDs is lacking, which is needed to assess incremental costs for all NIDs.
- Further efforts are needed to determine costs of surveillance activities at the country level.

Local Experience of Lymphatic Filariasis Elimination: The Case of the Municipality of Recife, Brazil

Denise Santos Correia de Oliveira, Secretariat for Health Surveillance, Recife, Brazil

Background of the Xo filariosis! Lymphatic Filariasis Program in Recife

Recife: The City

- 1.590.012 inhabitants
- City divided in 3 sanitary districts (every district 3 microregions)
- 43% sanitation in private housing
- 79% treated water in private housing
- 96% waste management

History of the Lymphatic Filariasis Elimination Program

- 1996 National Plan design by the Ministry of Health
- 1997 WHO recommends Mass Drug Administration for the interruption of LF transmission.
- 1999 2000 LF Survey conducted in Recife.
- 2010 WHO goal for elimination

Although some data on the presence of lymphatic filariasis existed at the Jaime Galão research center in Recife, comprehensive data for the whole city was not available. After the establishment of the LF strategy (based on mass drug administration of every person in areas at-risk during 4–6 years), a survey was conducted as a first step to establish where to find the at-risk populations in the city. This survey was carried out 1999–2000 through all the microregions of the city.

The overall prevalence found was of 1.3% but there were major differences depending on the microregion. Some were found not to have presence of the disease.

National Health Service Principles

- **Universality**
- **Equity** (greatest attention to zones most at-risk)
- **Comprehensiveness** (it is impossible to fight a disease so linked with environmental conditions without coordinating with other sectors)
- **Decentralization**

The Project

In order to determine priority areas for MDA, epidemiological and socio-environmental risk maps were compared.

The biggest challenge for the LF control program was the issue of optimizing resources to achieve all of the objectives in an integrated manner and based on epidemiological data.

LF Control Program Components

- Training of environmental health workers on the disease.
- Social mobilization
- Treatment of the population
- Vector control and environmental interventions
 - Decontamination of drainage channels and septic tank openings
 - Application of larvicides
 - Capture of mosquitoes with “CDC” traps to estimate vectoral density.
 - Monitor of vector infection by “PCR”

In 2003 the eligible population for the program was 18,808 including persons between 4 to 65 years living in the maximum number of priority sites. The eligible population increased year after year reaching a total of 185,000 eligible people in 2008. The percentage that finally received the treatment every year was above 80%, as recommended by WHO. The treatment consisted in diethylcarbamazine 6mg/kg/body weight annually during 4 to 6 years.

It is necessary to highlight the importance of capacity building of the health care professionals, and of community participation (schools, health agents, volunteers, etc).

During the last years of the program, two types of strategies have been developed for distribution of MDA.

Year	Type	Cost per person
2004	Mass campaigns (2 days)	0.78 US\$
2007	House by House	0.42 US\$

Results

The absolute number of cases declined from 907 in 2003 to 169 in 2007. The annual detection rate declined from 61% to 10.71% for the same period. In 2008 both indicators continued declining reaching 49 cases and a 3.08% detection rate.

In 2003 80,275 parasitological examinations were conducted, obtaining 1.1% positive results. In 2007 81,076 hemoscopies were carried out and only 0.2% was positive.

The index of vector infection in 2003 was of 2.12 and in 2007 no mosquitoes were infected.

The number of *Culex* mosquitoes also declined from 35 mosquitoes by room and at night before the treatment to 3 post-treatment. The density of parasitic pretreatment was 55 and post-treatment decreased down to 6.

The program continues to carry out surveillance through a prospective cohort where parasitological studies are conducted each year. In 2003 (pretreatment year) there was 74% of infected people in the cohort while after the treatment in 2007 we obtained 2% of infected. Due to the high mobility of the

population of these areas there have been many people lost during these years (62% losses) what constitutes a great limitation for this study.

Conclusions

- MDA is an effective and viable strategy, and of great impact.
- The joint action of vector control and education are fundamental for the mobilization of the population
- The reduction in the number of people with microfilariaemia in the monitoring group was significant, which demonstrates the importance of MDA in the interruption of the transmission of the disease.
- Vector control strategies are effective for reducing the number of mosquitoes.
- The index of vector infection showed an interruption of the filarial transmission in the area that was subject to treatment.

National Experience of Onchocerciasis Elimination – the Case of Colombia

Dr. Rubén Santiago Nicholls, National Institute of Health, Colombia

Background

Under the hypothesis that onchocerciasis was brought to the American continent through the traffic of slaves from Africa, the suspicion arose in the 1960s that onchocerciasis transmission could also exist in Colombia. Active case surveillance started in Afro-Colombian communities of the Caribbean coast, with negative results.

In 1965 the first index case was found in Colombia. The case was a young man working in Buenaventura harbor who sought medical attention because of low vision, and was sent to the hospital at the Universidad del Valle in Cali; there, microfilaria of *Onchocerca volvulus* were found in the anterior chamber of the eye during the ophthalmological examination. This patient had been born and raised in López de Micay municipality, located along the Pacific coast of the department of the Cauca.

This finding brought complementary studies to López de Micay, which confirmed the presence of active transmission of onchocerciasis in this municipality and led to the establishment of *Simulium exiguum* as the vector.

During the years 1977 and 1989 two other epidemiological studies were conducted in this focus which demonstrated an apparent reduction in the prevalence of infection; however no intervention was carried out.

The recent history of this focus begins in the decade of 1990, when, thanks to the donation announced in 1987 of the drug Mectizan® (ivermectin), on the part of Merck laboratories to support onchocerciasis control programs in the world, eliminating onchocerciasis in the Americas was considered feasible.

This encouraged PAHO to issue Resolution XIV of the XXXV Assembly of the Directing Council — signed in 1991 by the Ministries of Health of the onchocerciasis affected countries of the Region. This resolution appealed for the endemic countries in the Region to establish programs for the elimination of onchocerciasis.

The Project

Based on this Resolution, the Onchocerciasis Elimination Program for the Americas (OEPA) was created in 1993, and in 1994 the National Committee of Onchocerciasis was established in Colombia that served as a starting point for the Colombian National Onchocerciasis Program.

In 1995 a new epidemiological evaluation of the focus of onchocerciasis was conducted following the Fast Epidemiological Evaluation methodology, as recommended by OEPA, in order to characterize the foci. As a result, transmission of onchocerciasis was limited to the community of Naicioná, located in a remote area in jurisdiction of the López de Micay municipality. This is an Afro-Colombian community inhabited by approximately 400 people who live in precarious condition, where a prevalence of infection of 40% was found.

Based on this information, educational and community participation programs were launched in 1995. In 1996 entomological and ophthalmological complementary studies were conducted and in the second semester of this year the administration of semiannual dose of ivermectin began, with the goal to achieve a minimum coverage of 85% of the eligible population in each round of treatment, during a minimum time period of 10 to 12 years.

The program for the distribution of ivermectin (Mectizan®), accompanied by a program for education, participation, and community strengthening, continued without interruption until the second semester of 2007, period during which 23 rounds of treatment were administered, achieving in 18 of them the minimum coverage of 85%.

Results

Following the guidelines established by OEPA, impact assessments of the program were conducted in the years 1998, 2001, 2004, 2006 and 2007 that included clinical and parasitological examination (biopsy of skin in right scapula and right iliac crest), serological tests (carried out in 2001, 2004 and 2007), ophthalmological evaluation and entomological evaluation.

The results of these evaluations showed that the prevalence of infection measured by biopsy of skin diminished from 40% at baseline to 0% in 2007; according to the results of the serological studies there were no more new cases in children under the age of 10. Also, no ocular pathology or blindness related to onchocerciasis was found in 2006. Last entomological evaluation made in 2004 showed that the infective rate in black flies was of 0.19/2000, lower than the minimum threshold of 1/2000 that there is considered necessary for transmission, in accordance with the provisions of the World Health Organization (WHO).

Previous results, together with historical data on treatment coverage and demographic variables were included in an onchocerciasis transmission simulation model for the Americas (SIMONa), developed by Dr. John Davies of the University of Liverpool. The principal conclusion of this model applied to Naicioná was that "simulations including continuous treatments twice per year indicate that the no-

return point for interruption of transmission of onchocerciasis in this focus will be reached at the end of 2006 or perhaps previously”.

All of the above results were presented, discussed and analyzed at the Coordinating Committee of the Program (PCC) of OEPA meeting held in June 2007. Based on them this committee concluded that the transmission of onchocerciasis had been interrupted, and recommended the suspension of the treatments with Mectizan® and the initiation of the period of 3 years of epidemiological post-treatment surveillance starting in 2008. This recommendation was implemented by the Ministry of the Social Protection of Colombia in November 2008.

In accordance with the established timetable, at the end of the 3 years post-treatment surveillance period (in the second semester of 2010) new evaluations will be held (parasitological, serologically, entomologically and possibly ophthalmological) and if the results demonstrate that the interruption of the transmission is kept in this focus, Colombia would initiate in 2011 the formal process of certification of Onchocerciasis Elimination on the part of the (WHO).

These results were obtained thanks to the collaborative and interdisciplinary work from several institutions and people, including the National Institute of Health, the Ministry of the Social Protection, the National University of Colombia, the Departmental Health Secretariat of Cauca, and with the important technical and financial support of OEPA, the Center Carter, the International Lions Club, the Mectizán Donation Program and Merck, Sharp & Dohme Laboratories.

The interruption of the onchocerciasis transmission has been achieved in other foci in the Americas. To date (December 2008), of the 13 endemic foci of transmission of onchocerciasis located in 6 countries, Brazil, Colombia, Ecuador, Guatemala, Mexico, and Venezuela, the interruption of the transmission has been achieved in 2 foci of Mexico (Northern Chiapas and Oaxaca), in three of Guatemala (Santa Rosa, Escuintla and Huehuetenango), in the only focus of Colombia and in an area of the Ecuadorian focus.

It is expected that the interruption of the transmission in all American foci will be reached in 2012, in accordance with the term set by the Resolution no. CD 48 R12 of the Directing Council of PAHO, promulgated in August 2008.

Perhaps the greatest challenge currently for the Regional initiative is to maintain high coverage in order to achieve the interruption of the transmission in the Southern Venezuela and Northern Brazil foci, that environmentally correspond to a single focus located in the Amazon jungle of these two countries, with geographic conditions that make access difficult, in which the affected population is indigenous of the nomadic ethnic group Yanomami, and which involves overcoming cultural barriers to their access.

Conclusions

The key factors that have helped to achieve the success toward elimination of onchocerciasis in the Americas:

- The political commitment of the countries, for whose achievement contributed to World Health Assembly resolution WHA 56.26 on the elimination of avoidable blindness.
- The creation of the Onchocerciasis Elimination Program for the Americas (OEPA), which channeled technical and financial support to national programs.
- The association between OEPA, the Center Carter, the Bill and Melinda Gates Foundation, the International Lions Club for the acquisition of funds in order to finance the Program.
- The existence of Mectizan® Donation Program.

- Clear establishment of the objective (to achieve onchocerciasis elimination in the Region) and the strategy (semiannual treatment with ivermectin, with coverage minimums of 85% of the eligible population in every round of distribution, during 10 to 12 years of the program from the beginning).
- The existence of guidelines for certification of the elimination promulgated by WHO.
- Education and community participation, as part of the programs in all countries.
- The intersectoral approach in some countries (for example, in the Colombian case there have been advances toward the strengthening of the community in different health aspects, such as organization and food security).
- The role of the nongovernmental organizations in collaboration with the national programs in some countries (for example, in Brazil).

Questions and Answers/Discussion

Kei Kawabata

- Taking into account the enormous knowledge that we have presently about these diseases, their control interventions and the technology available, the key issue now is their implementation. Other, more specific issues that we now have to deal with are: how to achieve a high degree of integration with the primary health care sector; and how to accomplish this through decentralization.
- Important decisions have to be made as to the interventions that we will choose implement, such as water and sanitation or community participation. We have to be aware of costs and we will also have to plan how the district level is going to be able to bring all these parts together.
- It will also be necessary to build a very good monitoring and evaluation system that will be able to bring together the various experiences, detect the errors, and be able to correct them and adapt them to a new situation.

Peter Hotez

- I do not believe that the data from the *Global Disease Burden Cost Study 2004* used by Bitrán & Associates are any longer valid. They underestimate the real burden of NIDs by at least 10%.
- It is true that the elimination of soil-transmitted helminths in LAC will not be achieved with chemotherapy alone, but global initiatives are not seeking the elimination of these diseases. The goal for the next years is to seek control and reduce morbidity.

Philip Musgrove

- The zigzag approach to prevalence showed in the cost study does not make sense historically. Perhaps a study like this could be used to track the changes that come as a result of diminishing prevalence.
- Water and sanitation costs are expected to be tremendously greater than the cost of medications, and although they are indispensable we should not paralyze the advances that are available through mass drug administration by waiting for progress on water and sanitation.

Kei Kawabata

- The IDB has just received a 300 million Euro donation from the government of Spain for the Water and Sanitation programs with the aim of maximizing the results of health interventions. Impact evaluation will also be needed for this new funding
- It will be important to create synergies by aligning the selection of the countries and areas elected for these Water and Sanitation projects with the populations that are the most vulnerable to NIDs.
- Other synergies are possible through collaboration with sectors such as education departments, where primary school could implement deworming programs.
- The topic of flooring is worth to re-emphasize, as there is an important link between some of these diseases and the lack of hard flooring.

Denise Santos Correia de Oliveira

- In practice, it is very difficult to work from the municipal government with an integrated approach. Recife's Filariasis Program has used the Environmental Health Program to integrate both the sanitation secretariat and community participation, which has facilitated the process.

Paulo Fernandes

- For the identification of the target population for water and sanitation, I would like to highlight the existence of the "Faces, voices and places" project, which identifies where the most vulnerable populations exist in the Region in relation to water and sanitation and other social and environmental determinants, with the aim of targeting the populations that need the most support in achieving the MDGs. This program presents a great opportunity to share and overlap data on communities with the ones presented here, in the context of distributing funds to combat neglected diseases.

Jarbas Barbosa

- The relation between sanitation and health is very important. Every person has the right of access to water and sanitation but is important that the health sector collaborate in selecting the most vulnerable populations, and in the determining what the most adequate and effective interventions are in each case.

Panel I: Trust Fund Architecture and Operations

Chair: Dr. Kei Kawabata, Inter-American Development Bank

Principles, Governance and Eligibility Criteria, Executing Arrangements, Complementary Investments

Amanda Glassman – Inter-American Development Bank

What does this trust fund seek to do?

- The goal of the NID Trust Fund is to improve the health and wellbeing of people in Latin America and the Caribbean, especially the poor and marginalized communities.
- The purpose is to create a designated fund to support country, state and Regional-level NID programs and also national or Regional NGOs working in collaboration with the primary healthcare systems. The municipal level will gain an important role in this initiative.

Problems to Be Addressed

- Lack of resources or lack of priority given to scale up proven health interventions (e.g., for the sustained purchase and distribution of essential drugs): the underlying reason for lack of data in some cases is not a shortage of resources but a lack of priority given to the issue. Most countries in this Region have the capacity to finance neglected infectious disease programs but these programs are not a priority and so do not get the sufficient funding.
- Lack of adequate disease surveillance and mapping
- Failure to address the root causes or environmental conditions that perpetuate disease vectors and parasite niches (lack of hard floors, water and sanitation, shoes, etc).

Trust Fund Principles

- The NID Trust Fund operates as a financial instrument, not an implementing agency. National governments or non governmental partners in the country will be in charge of the implementation. It will work the same way as Global Fund for HIV/Malaria.
- The trust fund is a rapid and innovative grant-making mechanism that operates transparently & with accountability.

Note on performance-based grants: An article recently published in the Lancet¹ criticizes the performance evaluation mechanisms used by the GAVI (Global Alliance for Vaccines and Immunization) strategy. They were rewarding performance based on data from ministry reports which were significantly different of those from the baseline surveys. There was some evidence that, whether intentionally or unintentionally, governments were over-reporting and reaping the rewards. It will be necessary to rethink this issue of verifying data, but this type of financial mechanism will be maintained in the trust fund.

- National ownership of work
- Proposals reviewed by independent technical review committee

Where will the trust fund work?

- 26 IDB member countries of LAC (the grant won't be working with USA).

Trust Fund Objectives

- Establish incidence and prevalence of NIDs for priority subnational areas.
- Scale up rapid-impact health interventions to control and eliminate NID (e.g.: by funding Mass Drug Administration programs integrated into primary care health plans). Regional, national and state-level performance-based grants would be provided to work towards controlling and in some cases eliminating NIDs.
- Support strengthening of national and local health systems by providing technical assistance to build the infrastructure, surveillance and management skills needed to integrate NID prevention and control into primary health care and schooling. The skills for disease mapping, storing and administering of drugs and rigorous data reporting would be honed in the process of implementing NIDs interventions, and therefore contribute towards strengthening the foundation of weak health systems and especially their information systems. Resources will not be provided for infrastructure to improve health systems.
- Harness the potential of intersectoral approaches for combating the environmental factors that are the root causes of NIDs, in order to move from theory to action by illustrating that comprehensive approaches are not only feasible, but required, in order to sustain action in the fight against NIDs. The majority of this work is vector control.

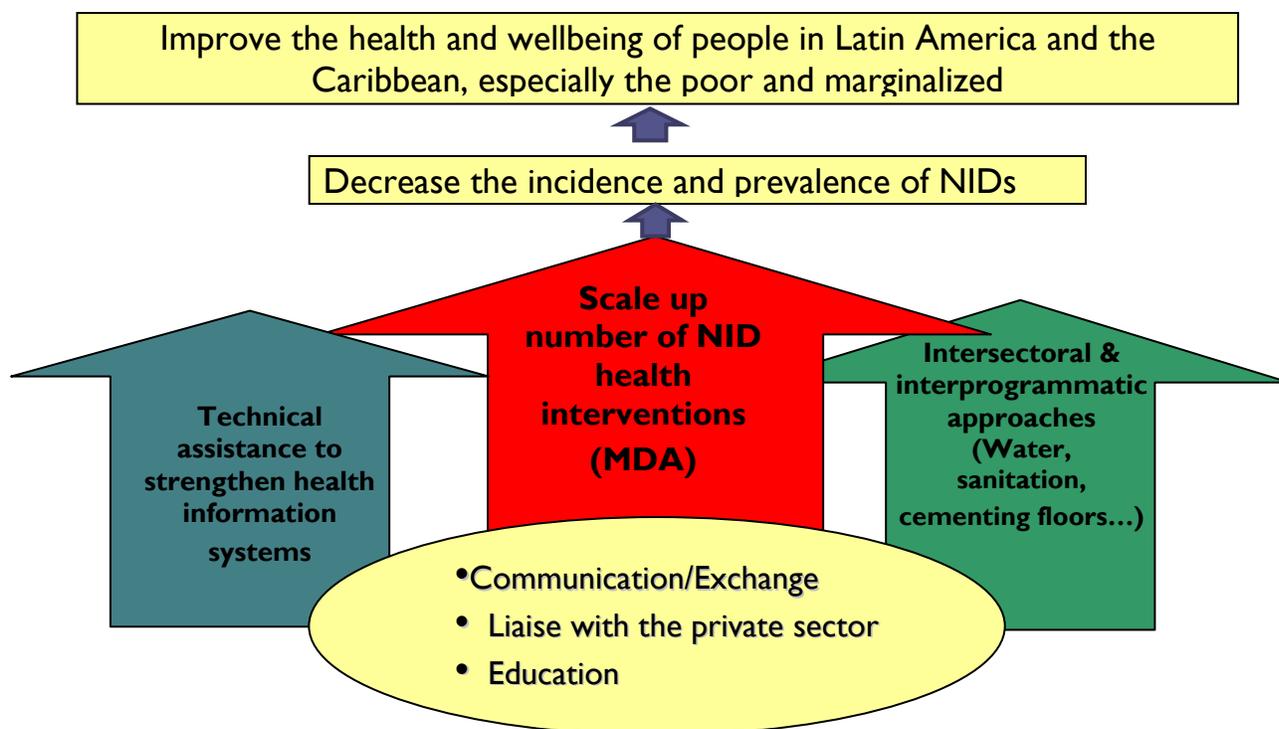
An integrated approach to address multiple NIDs at the same time will be encouraged because of cost-efficiencies gained (adverse events will be documented – this will add to the knowledge base).

Surveillance will guide program strategy for MDA delivery (e. g. to determine what percentage of the population needs to receive the drugs by geographic area and for how long).

¹ S Lim, DB Stein, A Charrow and CJL Murray, Tackling progress towards universal childhood immunisation and the impact of global initiatives: a systematic analysis of three-dose diphtheria, tetanus, and pertussis immunisation coverage, *Lancet* **372** (2008), pp. 2031–2046

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Because one of the unique characteristics about this proposal is that it supports a comprehensive approach to combating NIDs, it is our hope that one entity (MOH at national or state level) would engage partners to present a proposal that includes all 3 activities. However, depending on the status of NIDs control in the country, an entity may present a proposal for just one of these activities for example:

- 'Country A' does not have enough baseline surveillance data to implement an MDA program, so they need support in the form of technical assistance to improve their health information system
- 'Country B' has a strong NGO community that works on water and sanitation, they have the knowledge and community support, but they lack the resources to scale up their program.

3 Financing Mechanisms

- 1) **Challenge Grants:** For national or state-level governments that are able to provide matching funds
- 2) **Traditional Grants:** For regional, national or state-level governments or NGOs with:
 - Less developed economies and
 - The conditions in place to eliminate one or more NIDs.
- 3) **“Bonus’ Grant”:** For proposing entities that are awarded financing for all three types of activities (e.g. MDA, technical assistance, intersectoral approaches). These are funds that would be provided to build on or initiate a ‘conditional cash transfer’ program as part of their comprehensive approach to combating NIDs.

Grants Administration

- Technical cooperation and assistance with NIDs proposal development & writing
- **Selection criteria for grants**
 - Feasibility (program ownership; use of global best practices; integrated approach)
 - Illustration of program ownership by national and local stakeholders.
 - Use of health interventions consistent with global best practices to address NID prevention, control and/or elimination.
 - Integrated control of NIDs (e.g. populations tend to have multiple NIDs simultaneously – a cost effective and efficient approach addresses the diseases as a group).
Well-developed program strategy (builds on existing health initiatives; plan to train health workers; evidence that funds are complementary)
 - Explicit plan to provide performance-based accountability for resources granted.
 - Builds on, complements and coordinates with existing health initiatives, their systems and infrastructure (e.g. immunization distribution channels, maternal health programs, distribution of bed nets, mass health education campaigns, school-based health education days, etc). This point should be stressed! (note, there is a small discrepancy here b/c PAHO included interprogrammatic in pillar #3, but this is also an explicit selection criteria which also is an issue for the ‘bonus financing’)
 - Evidence that the funds being requested are complementary and not a replacement of existing resources earmarked for NIDs.
 - Human resources for health: plan that outlines the number of people to be trained, gap in skills and maps their geographic distribution.
 - Demonstration that the program will promote overall health systems strengthening.
 - Focus on inequities in health (preference to municipalities and states with high disease burden and/or unmet basic needs indicators)
 - Explicit targeting of poor and vulnerable populations (which should come naturally b/c NIDs inherently affect the marginalized groups).

Monitoring & Evaluation

- Based on WHO/PAHO guidelines
- Routine data collection: countries will be expected to record each drug administered at the point of delivery (including age, gender & geographic residence of recipient).
- Grant money will be disbursed in 2 or more tranches. Second and subsequent tranches will depend on results from data quality audits and/or household surveys.
 - Questions arise: Do target-oriented and performance-oriented initiatives encourage over-reporting? Is there a need for independent and contestable monitoring of health indicators?
- Also performance evaluation for the trust fund itself

DQA (data quality audit) will be conducted by an external team to verify:

- The number of people reported to have received a treatment for a NID –including their age and gender;
- The accuracy of the reporting system itself.

Also, it is a powerful capacity building tool in that it encourages countries to ensure that their internal monitoring and reporting systems are robust.

Trust Fund Governance

- PAHO/IDB
 - Program management and technical support: IDB
 - Technical advisors: PAHO
- Steering Committee
 - Determine the TF strategic objectives
- Latin American and Caribbean Alliance Against NIDs
 - Advocacy, promoting best NID practices, identifying synergies across programs & countries, advocating for new research to address NID, etc
- Independent Technical Review Committee
 - Review grant proposals

PAHO Strategic Fund

James Fitzgerald, Program Manager, PAHO Strategic Funds

From the primary health approach when talking about MDA we are dealing with the need of promoting general access to medicines. Access to medicines has several determinants such as selection, financing and pricing and the supply system.

The NID Trust Fund will hold the opportunity for harmonizing selection processes, developing of Regional guidelines on recommended treatments, promoting additionality for negotiating pricing, consolidating needs and demand. All this will generate market knowledge so as to know who is producing what and at what level and this will help to avoid fragmentation of the market.

Issues Regarding Supply Systems

Most of the drugs used for treating neglected infections diseases are also what are called neglected medicines meaning they are single or limited medicines produced by a small number of producers at global level. Some of these producers are regional, others are public manufacture systems and others are private which result in numerous challenges to be faced.

Some aspects need to be taken into account when talking about Regional approaches and the needs to be addressed in order to insure effective implementation:

- How quality of medicines and producers is going to be assessed? Issues of quality within PAHO and member states regulations. Also prequalification for these medicines can be an issue to be raised.
- Another issue is the production capacity of these suppliers enough for a scale up of the MDA? These small producers commonly are not able to scale up their production in short periods of time.
- Who do we need to ask about transfer of technology within manufacturers in order to increase production?
- How to assure integration of supplies system for these medicines? The highly targeted approach is useful for some categories of products but nowadays is being questioned the sustainability of

this approach. These issues have to be considered very carefully in order not to jeopardize the whole integrity of the system.

- The last and biggest challenge when talking about supplies systems is the assessment of regulation frameworks on public procurement, quality, efficacy and international property.

Planning Issues

Regarding planning issues, a huge partnership is going to be needed in order to link Regional level to country level and then the municipalities in order for example to generate a Regional consolidated procurement process, and this leads to some question to discuss about:

- How to insure the capacity of the country in order to receive and effectively use the medicines?
- How to asses impact when using medicines? Health impact is going to be evaluated through measuring process or outcomes, if outcome what should we focus on, DALY's or QALY's?
- Regarding the NID Trust Fund organization, the PAHO technical area for Technology, Knowledge Management, Research and Innovation perceives a huge funding gap for NID innovation, which will be addressed. Some areas for innovation are:
 - Innovation areas
 - Promoting innovation capacity
 - Mapping
 - Strengthening knowledge networks
 - Diagnosis
- There are many experts in this Region that are working with public private partnerships. The NID Trust Fund should be open to receive proposals from these areas.

Comments from the Countries

Honduras – Concepción Zúñiga

Trust Fund

- This proposal is very good. Before beginning any work, however, it is crucial to consult with the countries and to take into account their experiences with these diseases. For example, the experience using Benznidazole for Chagas in Central America differs from that in South America; which has had a positive experience with the drug. Also, on the topic of using generics versus brand-name drugs, we have learned that the expenses incurred due to side effects from some generics end up costing us more than if we had used the brand-name drugs.
- Also, we have to make sure that the mechanisms of the trust fund are different for each country, taking in consideration local governments—we cannot have a uniform strategy for the whole Region. Having a different mechanism for each of the countries would assure that the funds reach the places where they are most needed. For example, in the case of the lymphatic filariasis program in Recife, good work has been done, but it is worth noting that Recife might have the same population as my country. In the case of Honduras it might make more sense to work with the national government rather than the state government; or, another possibility would be to make it so that funds can go through an agency or an NGO, as has been the case with past IDB projects.

- I would like to call for the Fund to refrain from imposing outside indicators, as has been done in other programs—I suggest that the indicators already being used in national programs be respected.
- In summary, every country should be looked at individually when obtaining results and to measure indicators adequately,

Financing Mechanisms: Types of Grants

- I am concerned about the “Challenge Grant”, which seems to place prerequisites for the continuation of treatment. If this is the case, Honduras would probably opt for taking the Traditional Grant.
- It seems also that the country’s resource availability to conduct a strategy play an important role in receiving funds from the “Traditional Grant,” and I hope that those countries with weaker infrastructure and less capability to carry out projects will not be ignored in the allocation of funds by this type of grant.
- The trend is to take into account those countries that have more need. However, some countries have a low prevalence at the general population, but they may have a higher prevalence at focused area, and I expect that this be taken in consideration when the criteria be established.

NIDs in Honduras

- In Honduras there was rabies this year. El Salvador has a rabies problem that was not taken into account by the study, particularly on the border with Honduras.
- In Honduras we had some under reporting of leishmaniasis – we’ve done a number of surveys and we still have a high percentage, and we are brining it down, but not as much as we’d like. This lets us thinking that MDA is not the answer. We have to have a comprehensive approach with all of the diseases.
- When it comes to Chagas and leishmaniasis, we might show up on a chart as having low incidence but the pressure on government programs on these topics is quite high. It is a good thing that with the contribution that Canada’s going to make, we’re going to make some serious headway.
- Some diseases have not been taken into account, particularly leishmaniasis, which is a very serious problem in Honduras.

Guatemala - Zoraida Morales

- This proposal sounds very encouraging and is a great opportunity for Guatemala. Initiatives such as this one force the countries to take the topic seriously. Meanwhile, the concept of “neglected” has had an effect on the Minister of Health of Guatemala, who has started using it in his meetings.
- A great achievement for Guatemala is to have been certified as the first country in Central America to eliminate transmission of Chagas by *Rhodnius prolixus*—the primary vector—after a process that took 10 years.
- Working on prevention is very important. We talk a lot about drug procurement, but I am very happy to see previous presentations focused on improvements to be made to homes and latrines, and greater access to clean water.
- Guatemala is an endemic country for leishmaniasis, yet information on the situation of the disease is limited. It is still unknown which major vectors are involved, and there is no mechanism on hand to treat patients. Oftentimes the studies are conducted by universities, yet they are not conducted from the perspective of national benefit, rather to turn into *papers*.

- I believe that most of us will enter into the “Traditional Grant” mechanism, given that the government would complement the work. However, the contribution of the government is normally limited to the salaries of the Public Health professionals.
- I would suggest when going forward to learn from the work that has been done that involved the communities, such as the project on Chagas disease control that was carried out in cooperation with JICA, the Japanese International Cooperation Agency.

Brazil - Eduardo Hage

- It is necessary to have a system of evaluation to keep track of how funds are being used differently in each country. Some strategies taken in one country might be useful to the rest. For example, if Brazil gets involved in developing new diagnostics tools (as this country has a strong history in this research field) all other countries could benefit.
- Due to Brazil’s diversity, there will be the need to develop focalized strategies for some diseases, such as onchocerciasis. However, for diseases such as Leishmaniasis, the challenge will be much greater, given that the treatment for Leishmaniasis is not very good and there is no guarantee from the manufacturer that the quality will remain the same every time. The most important issue at hand is that neither Brazil or any other country has an effective strategy to combat Leishmaniasis. It would be a great help if the NID Trust Fund could contribute to the process of bringing together and sharing the experiences in the different countries. We have to be able to understand which aspects of each plan are the most successful.
- In sum, it is necessary to view each country through a different lens and apply different methods to each; yet it is also important to work together to establish best practices that can benefit the group as a whole.

Guyana - Shamdeo Persaud

- I have a concern in reference to joint country initiatives in areas such as surveillance, training, joint procurement of supplies, medicines, etc. Would there be a mechanism for countries to apply for a grant jointly? For instance, Guyana and Suriname have a very open border and quite free access between the countries. We have also been able to run a joint immunization program, with Guyana and Roraima, Brazil, where the teams worked together on the mobile populations that go across the borders. I think that this experience could also be useful in working on STH, leishmaniasis, Chagas.
- Also, we’ve started to collaborate with Brazil on working on the capacity to screen for Chagas – we have recently benefited from training and capacity building and with PEPFAR to establish a national health laboratory.
- In terms of the health determinants, like factors of sanitation and water, we have a big challenge with footwear. Many children walk barefoot to school. There has to be some element of education and of support for the educational system.
- I think that this is a step in the right direction, and that we can come up with a good and sustainable solution to the problem.

Dominican Republic – Manuel González

- The concept of competition for funding is somewhat disturbing. It can make some countries feel uncomfortable when analyzing their need in comparison with other countries that need more aid. Methods are needed that guarantee equity, in addition to assuring effectiveness in fund distribution.

Haiti - Thomas G. Streit

- The funding mechanisms provide tremendous flexibility, and I would like to compliment the priority that has been given to the need for building institutional and human capacity/capital.

Colombia - Santiago Nicholls

- Politically, the topic of STH has been completely ignored by the government, and the information that we do have available is from small studies made by academic entities. However, the government has not been given the necessary information to take decisive action to reduce the parasite load. I believe that this initiative is very important in order to get countries to politically commit to make headway in the control of these diseases.

Discussion

Julie Jacobson

- Coverage data has significant faults, especially when there are incentives for governments to estimate upward. However, it is important to continue the debate on increasing coverage. It is not a fair conclusion to say not to use DQA and trust national data, because I think that there are a lot of potential benefits that come from DQA.
- To come up with as accurate estimates as possible, we need to use the appropriate tools to make those things follow in suit. We may use different kinds of tools, like using DQAs at the very beginning of the trust fund, and then towards the end verifying with a cluster survey – mixing and matching the strategies.
- I would highlight as a key area for innovation the diagnostic area. This area is particularly important because this Region is a leader in these issues. Having an inaccurate tool at the very beginning to trigger action is very different from not having accurate diagnostics when we get down to the diseases. I think that these advances in diagnostics would be a great benefit for health in this Region, but also will add capacity of the rest of the world.

Kari Stoeber

- It is important to pick the right performance indicators – and to make sure that those key performance indicators create the right incentive. There is also the need to have built-in quality-control measures, such as surveys or randomly selecting grants, to audit at different times. Once that is well articulated, and people's expectations go up, you should see better performance.

James Fitzgerald

- [In response to the question by Dr. Steven Ault on relationship between the proposed NID Trust Fund and PAHO's Strategic Fund] Certainly, the trust fund can be considered as complementary to the PAHO Strategic Fund.

Background on the Strategic Fund

- PAHO's Strategic Fund is not a procurement agency but one of technical cooperation, and as such, we cooperate with the countries on issues of procurement and supply management, which means working on priority public health problems, defining needs, estimates, and treatment targets. If the countries then want to work with the purchasing mechanism, then we will purchase on their behalf as well.
- For a number of products, given that the markets for these products are limited, we try to consolidate demand and achieve economies of scale. For the HIV area we have consolidated a demand for 10–11 products, which have gone through a bidding process achieving for 2009 a 25% reduction in the prices of those products.
- For the drugs considered of limited source, we think that consolidation would have another effect. Aside from achieving economies of scale, it would also create order within the market, as producers tend to get piecemeal orders, this way would consolidate demand and then purchasing through a procurement mechanism or from the countries themselves. By establishing such a mechanism you also are able to work together with the manufacturers to secure quality.
- Some countries will have their own regulatory frameworks and their own systems in place and there's this whole aspect to the quality procedures where the products have to meet the standards in all of the countries.
- Glucantime for leishmaniasis was a problem in the past, so we are in the process of creating a deal with Aventis Sanofi to secure quality control in the future. The countries were underestimating their needs so we have to work on getting the real estimate to begin conversations with the manufacturers, and find out what other options there are, in terms of different sources of production.
- The other product that is crucial for the Region is Benznidazole for Chagas. A transfer of technology has occurred between Roche to LAFEPE in Brazil – which is a manufacturer in a private laboratory – right now is only responsible for producing at the state level or national level within Brazil. So these sort of issued of demand and procurement issues, coordinating between the countries and the production companies could bring about great advantages.
- PAHO can reorganize the markets and bring economies of scale, and we deal with part of the need for newer medicines and new diagnostics through such methods.

Philip Musgrove

- It is not clear enough from my perspective how you choose who gets each kind of grant. From my understanding what you want in terms of challenge grant is to look for places where you can do something that's out of the ordinary, and give countries credit for trying when it comes to something different.
- Also, some questions that I would like to raise are: what is the horizon for this when elimination does not seem to be on the cards? Starting with those that are possible to eliminate is fine, but what if you're talking about conditions like STH and others that wont leave soon? Is there a notion of a gradual draw-down of help, when a country could begin to take it over? Is there enough gain in the health system? If adequate control methods are in place, could you phase out the need to treat people for those diseases?
- I do agree that working on the diseases that you can eliminate in the next 5–10 years would be a good starting point.

Adrian Hopkins

- This coordination is important, at a recent meeting of country representatives we realized that everyone was going to scale up on praziquantel, and if we had not had that meeting, everyone would have been doing it individually. I think that an important factor that we need here is baseline data. Also, although it was mentioned in the presentation, it seems to me that in order to get a grant, you have to have a certain level of capacity to carry out projects. This fund is destined for the poorest of the poor, and the poorest in capacity, so I hope that we do not end up with the poorest of the poor dropping off the scale because they cannot produce a good project.

Dirk Engels

- I agree with what has been said about the drugs, however, in practice it may not be feasible to reach such economies of scale when enormous volumes are needed and there are a small number suppliers, making a tiny benefit margin. We just may not have the volume to do this at the Regional level and that is why we are working on tackling this issue at the global level.

Kei Kawabata

- A lot of these diseases are at national borders, and we cannot control them without cross border collaboration.

Ximena Aguilera

- In response to the question about why leishmaniasis was left out of the study, it is not that we have neglected it ourselves, but this disease is not at the same level of tool-readiness as the other diseases. We have, however, launched a systematic review for Leishmaniasis, which Zaida Yadón will discuss tomorrow.
- Other diseases were not included in the study, such as cysticercosis, because not all diseases have very clear strategies for control or elimination; and so the epidemiological study focused on the diseases that were more advanced on this aspect.
- Also, some diseases were not included due to the lack of available information available for them but this does not mean that they will be excluded from the initiative.

Philip Musgrove

- As for the concern brought up by the representative from the Dominican Republic, it is important to recognize that the issue of competition will always be a factor; however, I agree that we have to find a way to balance efficiency with equity, so that we do not just target the areas in the Region where interventions would be easiest due to the country's resources, and thereby leaving behind those countries with less resources and ability to bring about results.
- There are some instances when mechanisms have been tailored so that funds are set aside each country; then, final disbursement would depend on the type and size of the proposal. This method guaranteed the access of all countries to the funding.
- Another issue to discuss is whether cost-effectiveness should be used as criteria to choose a project to fund. Using cost effectiveness is problematic because some diseases bring more costs than others, but we should not reach the point where only cheap interventions are the ones funded.
- New indicators should be developed in order to guarantee equity among countries.

Wrap-Up and Closing Discussions, Day 1

Pat Lammie, United States Centers for Disease Control and Prevention

- For those who have been treating patients one at a time this Regional initiative is a dream comes true.
- There is an ethical imperative to act. This is a context that should not be lost.
- We have the tools that enable us to have success and it is critical to use this opportunity to maximize the health of the people in these communities.
- From the global perspective it is really clear that the Americas have a tremendous advantage in knowing a good deal about where these diseases are found—enough information to start these programs. There is an enormous technical capacity coming from organizations like PAHO or CDC and from academic institutions in almost every country. There is a history of success in this Region which argues that this is a Region that can literally show the way to the rest of the world and this is not only an opportunity but also an obligation for this Region to act as a path finder.
- The results from the cost study are at this point estimates; they are going to change and would not be identical from country to country. It will be very important to track these costs to be as efficient as possible.
- When considering the cost of water and sanitation programs, we have to take into account the broader health benefits that come as a result, such as reduction of diarrheal disease.
- The NID Trust Fund proposal has been very well crafted. The type of grants presented here basically refute the classic argument about the horizontal vs. vertical strategies. Both kinds of programs can easily fall under the umbrella of the grants presented.
- The whole strategy creates opportunities for a host of different applicant organizations with different expertise on grant writing. By acknowledging those kinds of differences that in it self would reduce an important source of inequity.
- There might be an avenue to further reduce inequity or to catalyze change by providing small planning or mapping grants which would make a big difference for some of the small countries that have some of the least technical capacity.
- An important issue for discussion will be to start thinking about how to begin to evaluate these grants, in terms of their performance. What type of monitoring needs to be done? When we are looking on to effectiveness? How can quality be judged?
- Naturally, within this whole process some tension is going to emerge. The horizontal vs. vertical arguments will reemerge when looking into programs that focus on diseases that can be

eliminated vs. programs trying to control not yet tool-ready diseases. Also there will be tension between the desires to eliminate the disease and the desire to empower communities.

- Cross-border collaboration is also an aspect that needs to be incorporated; some proposals with Regional focus could be eligible for bonus grants.
- The trust fund can bring an incredible opportunity to a new era for South-South collaboration. There is tremendous technical expertise and capacity in the field within the countries of the Region; this can mean a tremendous difference in to the success of these strategies.
- Bonus grants can play a catalytic role by rewarding some innovated connections between NID programs and other kind of health programs.
- During the first years there is going to be a lot of work to do to refine the maps and estimates. Tailoring the tools to the Region is going to be essential as well as to be flexible thinking these things in order to address the critical needs of this Region.
- Here is a great opportunity not just to reduce the burden of the diseases in the list but also to tackle diseases that are not currently in our list.

Panel II: Implementing Solutions via the Trust Fund

Chair: Dr. Peter Hotez, Sabin Vaccine Institute/Global Network for Neglected Tropical Diseases

Setting Goals and Modeling Elimination in LAC

Dr. Mark Eberhard, United States Centers for Disease Control and Prevention

Indicators of Eliminability

There are several criteria that must be met in order to determine when a disease can be eliminated; as more of these indicators are met, more success will be achieved by an elimination program. These are:

- Biological plausibility:
 - No animal reservoir and opportunity to minimize human exposure;
 - No multiplication in the environment;
 - R_0 reduced to less than one;
- Effective tools:
 - Effective intervention tools;
 - Strategy to use tools;
 - Diagnostics for mapping, monitoring;
- Proof of principle;
- Adequate human and financial resources;

Candidate Diseases

In LAC, we have a long list of candidate diseases; they can be classified into three groups:

- a. Onchocerciasis, lymphatic filariasis and trachoma, which all have clear proven strategies.
- b. Schistosomiasis still lacks proof of principle in most all of Latin America to prove that it can be eliminated.
- c. Chagas disease and cysticercosis: while Chagas disease has had some effective strategies in the past, there is a question as to how much the strategies should be modified for northern zones and with new vectors. For cysticercosis, community-level proof of principle exists, but this needs to be scaled up to a national strategy (such as the work that is currently being done in Peru) and more work needs to be done to develop those strategies.

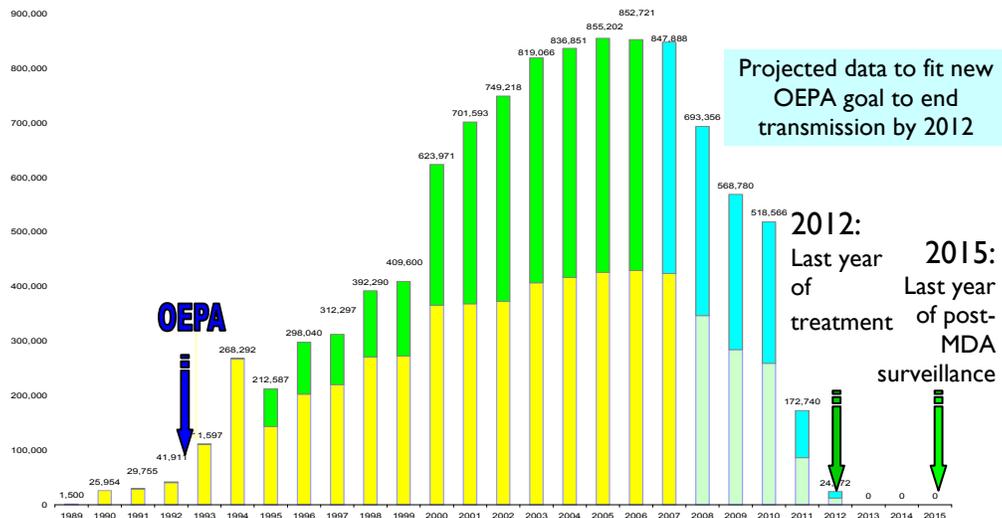
Which geographical opportunities are we talking about?

If a disease is present throughout the continent, this can be very difficult to deal with. Fortunately, most of these diseases are not endemic in the whole Region or even throughout a whole country, but are instead very focal, giving us a great opportunity in LAC to address them.

Also, we know that interruption of onchocerciasis has been achieved in many of the foci, and if it can also be achieved in the Central focus of Guatemala, then we can center our attention on a smaller “ring” encompassing just 2 or 3 foci in Venezuela and Brazil.

Importance of Modeling

Good modeling can be a very helpful tool in making decisions regarding elimination programs. The Onchocerciasis Elimination Program for the Americas, for example, used models to plan for the withdrawal and reduction of treatment over time as it was meeting the goals of interruption and subsequent elimination. This may be included in any new elimination program.



SIMONa and ONCHOSIM are examples of programs that can help you establish when it is safe to stop treatment, given good data.

Structure of an LAC Elimination Initiative: The Example of OEPA

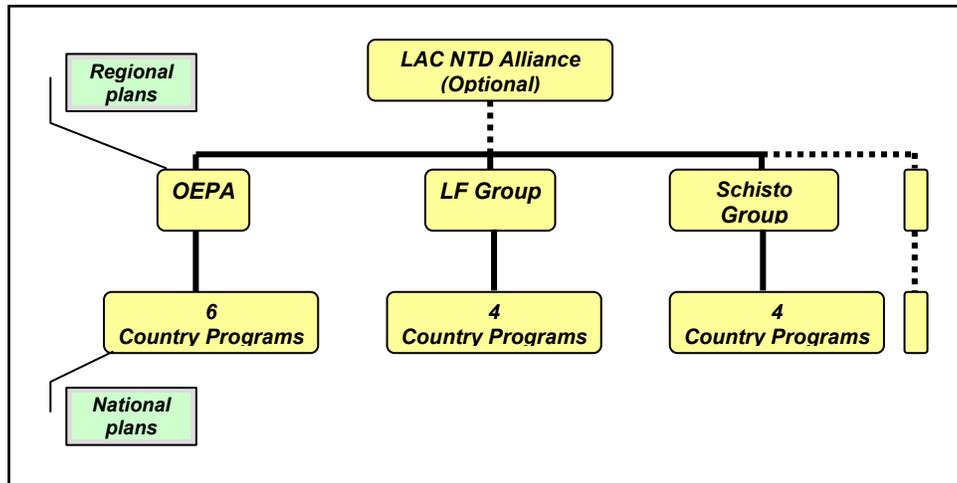
There are different approaches that can be taken for elimination programs. One option is a Regional approach, for which OEPA can be our model. There are two components: a Regional plan, and national plan.

OEPA Members

- Each endemic country’s Ministry of Health is represented
- NGO (The Carter Center)
- PAHO
- CDC
- Funding agencies
 - Gates
 - Lions Club International
- Merck (donates drugs) and the countries themselves put their funds as well.

OEPA Leadership

- PCC (steering committee)
 - Rotating country members
 - TCC
 - PAHO
 - CDC
 - At-Large members



Many tasks could be split between the Regional plan and national plans:

A Regional Plan

- Program review
- Special initiatives
- Technical assistance
- Financial assistance
- Advocacy
- Coordination
- Standardization
- Quality control
- Meetings (IACO/PCC)
- Monitoring and evaluation, sentinel sites

National Plans

- Country prioritization
- Program execution
- Drug delivery/other interventions
- Sustainability of coverage
- Health Education
- Integration

OEPA is a good example of how Regional partnerships really work. These partnerships provide several benefits including:

- Healthy level of competition, which helps with political will as well as with coverage. (When one country commits itself to a certain level of coverage, it places pressure on others to join)
- Sharing of ideas and best practices
- Sharing of resources (including health communicators, epidemiologists, ophthalmologists and entomologists)

These partnerships mean that each country does not need to have the whole cadre of people by instead relying on Regional help.

Technical & Programmatic Considerations for the Trust Fund

- One cannot overemphasize the need for political will and for governments to prioritize these diseases
- Single report process (scientific and budget) for each “program”, including those with multiple partners/donors (it is a big disincentive for each group to have a different group and different accounting)
- Coordinated drug donation for each disease/drug plus coordination of drug supply chain within each program
- Monitor and document health impact, not just coverage

- Document in scientific literature each foci or Region that interrupts transmission
- Assures accountability while meeting scientific criteria
- Helps in any certification process
- Document cost/benefit analysis but be cautious that cost alone does not become driver in elimination program

Similar Initiatives

There are a great number of other initiatives going on in the Americas. The USAID (also known as the President's NTD initiative) is an example of them and has much of the basis of the framework that we see in the NID Trust Fund.

Fighting Neglected Tropical Diseases Around The World

President Bush Announces New Global Initiative To Combat Neglected Tropical Diseases

Today, President Bush has challenged the world to reduce dramatically and eventually control and eliminate the burden of neglected tropical diseases (NTDs) as a major threat to health and economic growth in the developing world. This Initiative will make a total of \$350 million available over five years to provide integrated treatment of more than 300 million people in Africa, Asia, and Latin America and target seven major NTDs: lymphatic filariasis (elephantiasis); schistosomiasis (snail fever); trachoma (eye infection); onchocerciasis (river blindness); and three soil-transmitted helminthes (STHs – hookworm, roundworm, whipworm).

There are some places in Latin America where we might overlap with the Presidents NTD initiative. It is important that we are cognizant of what is going on in the Region to fight these NIDs, and are able to develop partnerships based on that.

Lessons from Previous Elimination/Eradication Programs

These are some lessons that have come from previous eradication and elimination programs, from the Dahlem Report:

- Understand natural history of disease
- Consult widely before embarking
 - Initiate surveillance early and use surveillance to guide program strategy
 - Eradication/elimination requires vertical approach
- Remain open minded/flexible, expect the unexpected
 - Some countries will need more help than others (They may need financial or technical assistance; they may not have the infrastructure required, etc.)
- Coordination of external donors essential
 - Political commitment at all levels essential
- Set a specific target date for eradication/elimination

We cannot overemphasize the need for data – particularly surveillance data – throughout the process. Eradication and elimination require a vertical approach, and the NID Trust Fund proposal was written in a way that allows for many types of approaches and activities.

Eradication is feasible for some of these diseases, and the international task force has clearly outlined what those are. Eradication/elimination is the ultimate in communicable disease control and in sustainability; it is costly, but highly cost effective.

Frank Richards – Carter Center

- One of the challenges we should prepare for is the scaling down process. An elimination program not only scales up, but scales down. It is easy to come in this “scaling up” mode from the economic and programmatic side without thinking about the divergence that occurs from control programs that scale up and sustain themselves, and *elimination* programs that make a big effort on scaling down; and, once reaching 0, having a period where nothing is happening besides surveillance and awaiting certification. However, it is important to consider that the scaling down phases is expensive and highly technical.
- Lymphatic filariasis in the Caribbean Region represents 90% of LF of the Americas. At the same time the entire burden of Malaria is located also in the Caribbean basin. Both are wonderful elimination opportunities waiting for success. Both are vector-borne diseases and bed nets could potentially help interrupt the cases of both, along with other important and tailored approaches, such as MDA, residual spraying and prompt treatment of cases. I really hope that this initiative and this document do not miss this.
- I urge the group to think less restrictively and to think about using the Challenge Grant approach to gain additional funds from other programs, such as the Global Fund, that currently works on malaria, to match the funds for NIDs and create a synergy epidemiologically, programmatically and in terms of resources. This could be an enormous success, a great milestone in public health, and another feather in the cap of PAHO. PAHO as a visionary for eradication and elimination campaigns.
- Taeniasis and cysticercosis are missing from the document. There is a great disease burden in this Region from these diseases. I believe that there are tools available to fight these conditions but also there are still big challenges that need to be addressed. I would propose to consider using the Bonus Grant mechanism mentioned in the document, where someone taking an extra step towards addressing Taeniasis and cysticercosis could be rewarded. This could be a great way to move forward for countries where these diseases are a priority. I congratulate the partners on this effort.
- On the topic of OEPA, this program is on its scaling down phase close to elimination of onchocerciasis foci. There is much work to be done in the OEPA program, however, which I do not think will stop its operations until 2015.
- Annual meetings of the countries, interested partners and stakeholders are absolutely fundamental to creating a community and a spirit, and optimism for fulfilling these goals. The spirit and the culture present at those meetings are infectious to anyone new who comes on board, where they can see how a community of dedicated champions can move an agenda.
- Margaret Meade said that it is amazing to see what a few dedicated people can do, but perhaps, in history, the only way that things ever get done is by a few dedicated people.

Baseline Mapping: Rapid Assessment of NIDs

Dr. Dirk Engels, World Health Organization

WHO has conceived tools to facilitate full scale implementation of preventive chemotherapy in areas where there is a serious overlapping burden of these diseases (classically: soil-transmitted helminths, lymphatic filariasis, schistosomiasis, trachoma, and onchocerciasis).

The situation in this Region may be different to that in other parts of the world so there is a need to adapt accordingly; taking into account that it may become even more complex when we move onto new diseases such as fascioliasis and cysticercosis.

According to the WHO Global Plan, what do countries need to plan for?

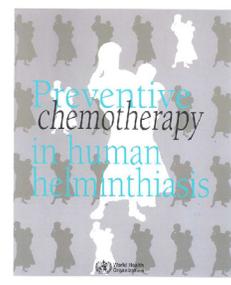
In order to be ready to implement (and receive funding) countries need:

- Mapping of disease epidemiology.
- "What-to-do" maps.
- National plan of action (implementation strategies, drugs, delivery).

For the monitoring of implementation:

- Recording Severe Adverse Events (SAE) should be part of interventions.
- Monitoring of program performance.
- Evaluation of (disease-specific) impact, with the idea of scaling down and stopping some components of preventive chemotherapy.
- Monitoring of drug efficacy (we are currently dealing with that, but this will probably never be part of a routine country intervention).

- **Disease-specific (rapid) mapping methods**
- **"Preventive Chemotherapy in Human Helminthiasis"**
 - Objective: Ensure best practice in the coordinated implementation of large-scale preventive treatment programmes, respecting all existing disease-specific guidelines**
- **Template for Country Plans of Action**
- **"Monitoring Drug Coverage for Preventive Chemotherapy"**
 - Objective: Ensure that all numbers of children and adults receiving preventive chemotherapy are reported into a standardized (national, regional, global) data capture system(s)**
- **Disease-specific monitoring guidelines**



WHO Tools

Rapid Assessment Methods

A different rapid assessment method has been developed for each disease. For STH and schistosomiasis—where the highest prevalence is in school-age children—the rapid assessment methods look into that age group for gathering data of the epidemiological situation is at the community level. Tools for trachoma tools, on the other hand, look at pre-school-aged children, because that is where you have the best indicators that you can rapidly assess.

An integrated mapping methodology may be a challenge and a need in some environments but there are circumstances where we can actually move forward with what we have. We should keep in mind that we are not working in completely virgin territory and that part of the mapping has already been done. Therefore, it is about completing the information by finding the extra elements that you need, and then move to implementation.

Technically, it may be difficult to integrate, but logistically, there are opportunities in the field to coordinate and integrate different methodologies into a single mapping intervention. The WHO implementation manual can serve as a reference. Once the mapping has been completed, one can derive the integrated strategy that has to be implemented.

Integrated Plan of Action

A template for Plans of Action has been developed by WHO so that donors and a technical committee could easily scan through a country profile and have an idea of how to use the information available. Also, a basic manual for monitoring the program performance is being developed and will include the guidelines for disease specific monitoring.

Coverage information is needed: we need to know what proportion of the people at-risk received the package of drugs that they need, which we then have to report to the World Health Assembly on a regular basis.

Country Profile

The country profile is a tool where everybody can learn about the situation of these diseases in a country. It is focused on preventive chemotherapy, but we are in the process of expanding that to other diseases which are based on disease management.

The image displays a stack of WHO Country Profile documents. The top document is the 'Country Profile' for a specific country, showing various sections:

- Maps of disease endemicity**: A map showing the geographical distribution of the disease.
- Maps of required interventions**: A map indicating where interventions are needed, with the question 'What to do where?'.
- Progress in implementation of these interventions**: A section detailing the status of implemented interventions.
- Progress towards disease-specific targets**: A section showing progress towards specific targets.
- Decline of disease endemicity**: A section showing the decline of disease endemicity over time.

The main document also includes a 'BASIC COUNTRY DATA' section with the following table:

Year	Population 0-14 years	Population 15-49 years	Population at risk (L1)	Population at risk (L2)	Population at risk (L3)	Population at risk (L4)	Population at risk (L5)
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							

The document also includes a 'PREVENTIVE CHEMOTHERAPY TREATMENTS IMPLEMENTED PERIOD UNDER REVIEW' table:

PCT disease	Dissemination status	Dissemination strategy	Mapping status	Implementation status
Ascariasis	Generalized	Generalized	Completed	Completed
Trachoma	Generalized	Generalized	Completed	Completed
Schistosomiasis	Generalized	Generalized	Completed	Completed
Soil-transmitted helminths	Generalized	Generalized	Completed	Completed
Onchocerciasis	Generalized	Generalized	Completed	Completed
Toxocariasis	Generalized	Generalized	Completed	Completed
Hookworm	Generalized	Generalized	Completed	Completed

The structure of the country profile will include a snapshot of the country that provides a basic summary of the situation; as well as show how many people at the national level have to be treated for the different diseases. This basic mapping will provide the information needed to develop further strategies. It will also provide detailed information for each round of treatment (people targeted, people treated) which can be compared with the population at risk to determine the specific coverage. The least defined part of the country profile at this stage is on the topic of monitoring the decline of disease endemicity, the basic purpose of which is to find indicators that monitor a decline in transmission, and that give an idea of when to scale down, how to scale down, and when you can stop treatment for a certain disease. All the information in these country profiles is will be regularly reported to the World Health Assembly.

What an Integrated Program Can Look Like in LAC

Dr. Steven Ault, Pan American Health Organization

Definitions and Concepts of Integration

Integration has different meanings in the general cultural context and in the health care context. Looking at some definitions we see the common thread of bringing two or more entities together; and, in the health context with the objective of improvement – improved coverage, improved access, improved quality etc.

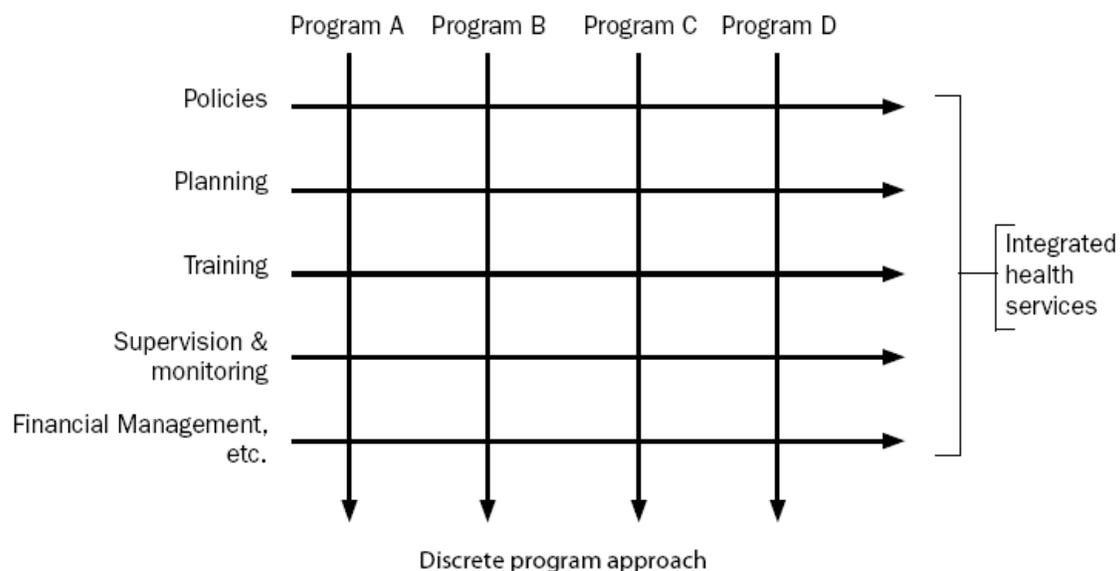
Recently WHO published a technical brief on integrated health systems which recognizes the multiple meanings the term can have, depending on what level or issue you are trying to address. Perhaps in our context today, the last bullet best describes what we are trying to do when we integrate NIDs control programs.

- **Integrate (verb):** Definition If you integrate one thing with another, the two things become closely linked or form part of a whole idea or system. (English Collins Dictionary-Thesaurus)
- **Integrate:** Make into a whole by bringing all the parts together; or make part of a whole
- **Integrated:** Formed or united into a whole or introduced into another entity
- **Integration** has strategic, structural, cultural and technical dimensions (SM Shortell, UC Berkeley)
- **Integrated healthcare:** Healthcare services combining the best of conventional and complementary health care
JONAS: Mosby's Dictionary of Complementary and Alternative Medicine.
(c) 2005, Elsevier.
- **Integrated service delivery (WHO's working concept):** "The organization and management of health services so that people get the care they need, when they need it, in ways that are user-friendly, achieve the desired results and provide value for money."

Multiple Meanings of *Integrated* (WHO Technical Brief, May 2008)

- “Integrated” is frequently used to refer to a **package of preventive and curative health interventions for a particular population group**—often (but not always) this group is distinguished by its stage in the life cycle. Examples are the Integrated Management of Childhood Illness (IMCI), Integrated Management of Pregnancy and Childbirth (IMPAC), Integrated Management of Adolescent and Adult Illness (IMAI)
- “Integrated health services” can refer to multi-purpose service delivery points—a range of services for a catchment population is provided at one location and under one overall manager.
- Integration can also refer to the **vertical integration of different levels of service**: for example, district hospitals, health centers and health posts.
- Integration can also refer to **integrated policy-making and management**, which is organized to bring together decisions about different parts of the health service, at different levels.

Figure 1 – Integrated Policy and Management



- Integration can also be viewed as the **development of cross-cutting or transverse activities and collaboration** between what were once isolated horizontal or vertical programs alone (bullet added by SK Ault)

Context and Opportunities for Integrated Control Programs

Integrated disease prevention, control and elimination programs give us the opportunity to support countries' efforts to meet some the important health goals of the MDGs, particularly:

- **MDG 3:** Promote gender equality and empower women.
- **MDG 4:** Reduce child mortality.
- **MDG 5:** Improve maternal health.
- **MDG 6:** Combat HIV/AIDS, malaria and other diseases

Also, they give us the opportunity to design our programs to address the 3 calls for action which came out of the recently published WHO Commission on the Social Determinants of Health, which are:

- Improve daily living conditions
- Tackle the inequitable distribution of power, money and resources
- Measure and understand the problem and assess the impact of action

James Macinko of New York Univ. has given us four main approaches we can use to design integrated NID programs to improve equity in health—one of the key objectives of the work of PAHO and the countries in our Region. These are:

- Increase or improve provision of health services to those in greatest need.
- Restructure health financing mechanisms to aid the disadvantaged.
- Develop programs to aid the poor in obtaining basic goods (housing, water, food).
- Altering broader social and economic structures to influence distal determinants of health inequities

Some of the more cost-effective interventions available for our use at the national and local levels are:

- Mass preventive chemotherapy for soil-transmitted helminths, schistosomiasis, trachoma, onchocerciasis, lymphatic Filariasis.
- Vitamin A and micronutrients.
- insecticide-impregnated bed nets
- Vaccines.
- DOTS.

Integrated Strategy for Prevention, Control, and Elimination of NIDs

Prevention of transmissible diseases is among the most cost-effective interventions in public health. It also produces positive economic returns, particularly in marginalized and disadvantaged population groups.

Once we have mapped the NIDs down to the first and second subnational levels we have a powerful tool to visualize opportunities to control or eliminate hot spots and design and implement integrated programs. A successful integrated NID strategy requires:

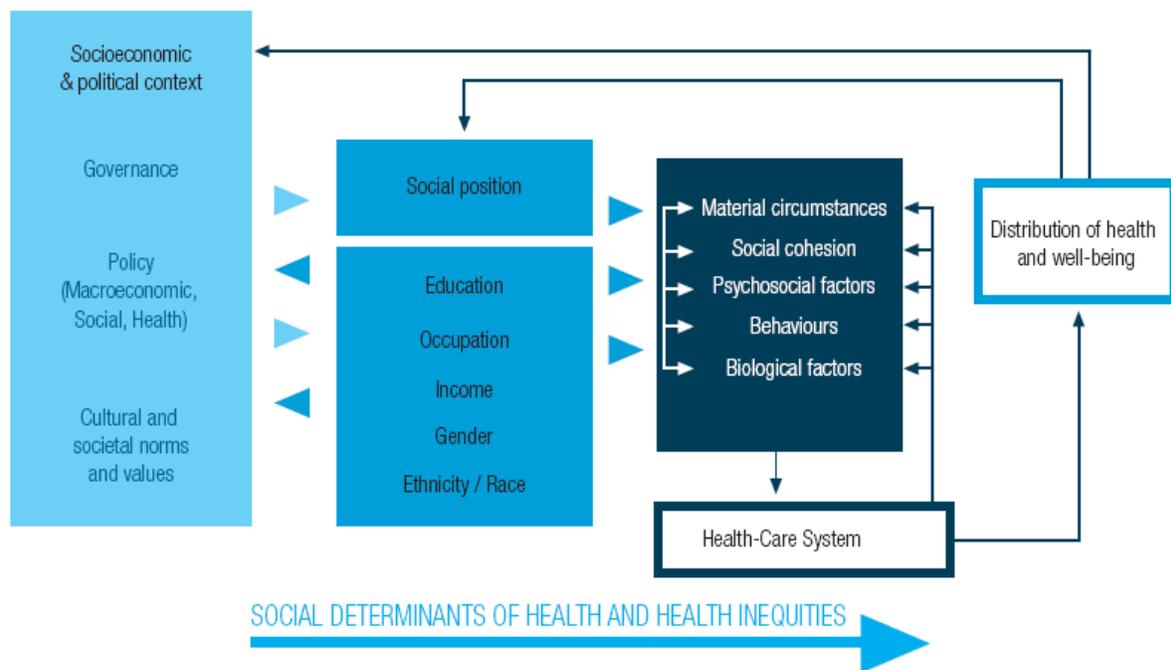
- Defined territorial context
 - Precise knowledge of the health situation and its determinants
 - Well-mapped diseases (and key health determinants)
- Participative focus
 - Priorities shared with the community
 - Use of qualitative methods
- Appropriate Interventions
 - Adequate for the local reality and acceptable to the community
 - Health system based in PHC
 - Appropriate technologies

NIDs, Social Determinants of Health, and Human Rights

One of the most important characteristics of an integrated strategy is that it is based on a framework of social determinants of health and help address Human Rights, one of the cornerstones of Peace and Economic Development. Therefore, it would focus on improving the quality of life of the communities and reducing inequalities; require participation of other sectors or agencies and guarantee sustainability over time.

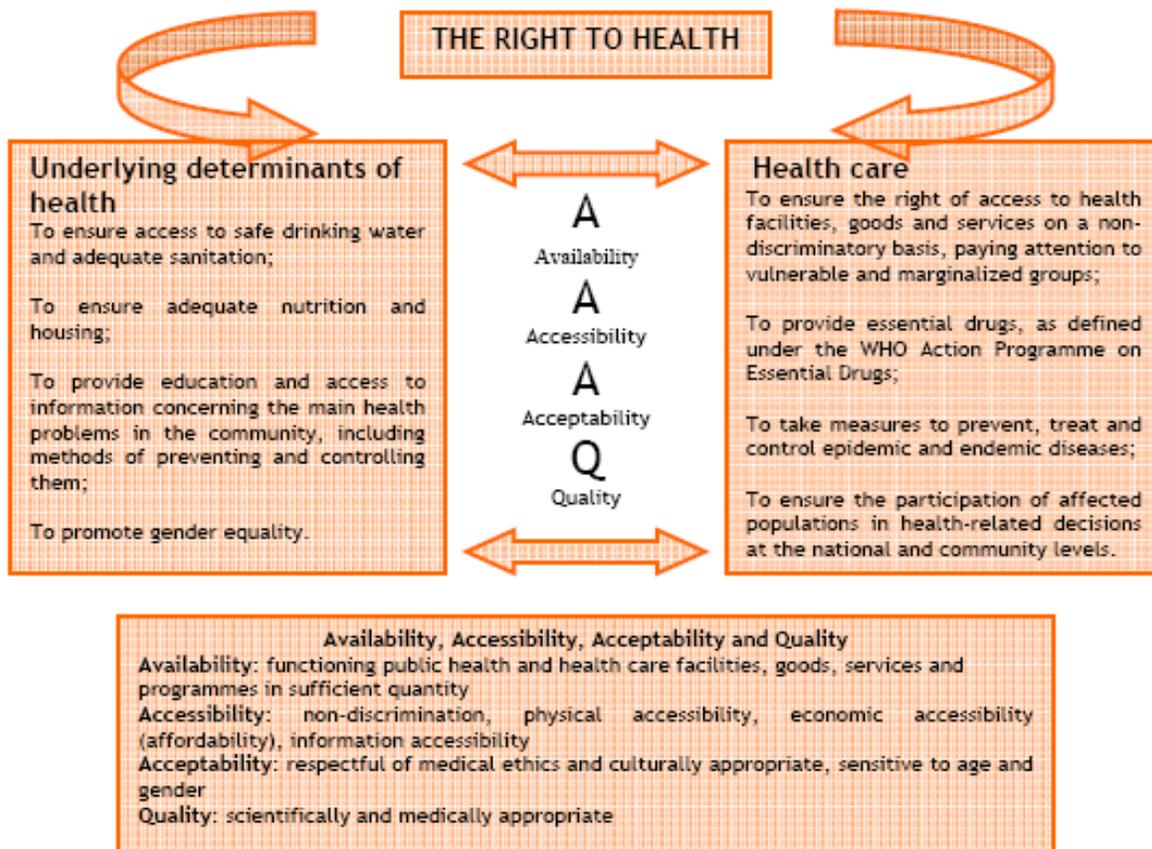
NIDs are both a cause and a consequence of poverty. In order to combat these diseases we must work in the context of poverty reduction and must involve work with other sectors and within the distinct psychological, socioeconomic and political environments found in each country and local level.

Figure 4.1 Commission on Social Determinants of Health conceptual framework.



Source: Amended from Solar & Irwin, 2007

We realize that NIDs principally affect the most vulnerable and marginalized populations and communities in our countries. PAHO and WHO see this as a true human rights issue: issues of lack of availability, access, acceptability to poor and sometimes ethnically distinct communities (i.e. not “mainstream” communities), and the quality of care they receive. We must design our integrated NID programs to be sure they do constructively contribute to meeting these four criteria.



Examples of Integrated Mass Drug Administration Programs

There are various entry points for a deworming program to be linked or piggy-backed onto other existing health care programs, particularly those usually operated through the Primary Health Care system. These entry points vary according to the target population for deworming.

There are other complimentary programs both within and beyond the health sector which can synergize with deworming and add value as they address not only STH but other health determinants. In our Region there are examples of such programs today, such as the joint MOH/WFP food security program reaching the prioritized list of poor municipalities in Ecuador, where food supplements and deworming are offered to these families; the immunization campaigns in Nicaragua where deworming is piggy-backed, and the pilot project in Honduras where deworming of pregnant women is being added to routine prenatal visits.

Entry Points to Scale-up Service Delivery of Deworming in Target Groups (Interprogrammatic)

Population	Programs to Link with for Service Delivery	Complementary Programs	Examples
Pre-school (ages 1-4)	IMCI, EPI, Vitamin A, Micronutrients, MCH	Hygiene/Health Education, Safe Water and Sanitation, Nutrition Education, Child-feeding/Food Security	Ecuador (food security with WFP)
School-age (ages 5-14) and Adolescent	Immunizations, Micronutrients, MCH and adolescent health	Hygiene/Health Education, Safe Water and Sanitation, Nutrition Education, Child-feeding, School Gardens; FRESH; PROMESA-Oportunidades	Nicaragua (IZ)
Pregnant women	Immunizations, Micronutrients, MCH and adolescent health	Hygiene/Health Education, Safe Water and Sanitation, Nutrition Education	Honduras (MCH)

Tools to Design and Implement NID Programs

There are a number of tools, both on the Policy and Planning side and the Practical side, which will enable us to design and implement integrated action plans for NIDs in the Region. On the policy and planning side we have, for example: WHA Resolutions, the WHO Global Plan for NIDs, and the WHO/Carter Center white paper on “Integrated Control of the NIDs”, presented to the UN Global Health meeting (May 2008).

On the practical aspect we have tools such as the “Preventive Chemotherapy Manual” and “Dose Poles” from WHO NTD program and other field tools such as multidrug schedules, “Action Against Worms” newsletter series and Training manuals for specific NIDs.

In terms of technical cooperation, there is a wide array of organizations that can provide support, including PAHO/WHO and their Regional partners such as OEPA, the Carter Center, IPK, FIOCRUZ, US Centers for Disease Control and Prevention, the Canadian International Development Agency, the Japanese International Cooperation Agency, and INSPs.

For databases we can rely on the WHO Data Bank on STH/schistosomiasis, which is currently expanding, and we can also count on PAHO/WHO and Google Earth for resources in the mapping of the diseases.

Mozambique: Integrated NTD Control Plan as a Tool

The MOH of Mozambique working with WHO and an academic institution put together a valuable plan of action for NIDs in that country. The Mozambique action plan can be used as a conceptual model for our countries, as the topics which should be covered, outlined here, are basically the same for every country though the details will obviously be different and constructed on local epidemiology and operational reality.

1) Background

- Specifics of the country: incorporate the information necessary to understand the plan. Include:
 - Brief history of control of helminthiasis and other NTDs/NIDs in the country.
 - Maps of the country: administrative and ecological.
 - Basic demographic data.
 - Populations at risk –where are they?
 - Estimate of quantity of medicine needed annually – for programs, campaigns, health posts, hospitals.

2) Situation Analysis

- Maps of the diseases.
- Maps of action showing current MDA and other interventions.
- Prevalence, intensity of infection (if available).
- SWOT analysis.

3) Implementation Procedures

- Address the following:
- Integration or articulation
 - EPI, IMCI, MCH, healthy schools, food and micronutrients, family and adolescent health, water and sanitation, housing
 - Training and strengthening of health systems: competencies
- Monitoring and evaluation, with baseline and indicators
- Social mobilization: IEC, COMBI, schools, ecoclubs, local participation
- Work Plan, with timeline
 - With specific activities, pilot projects, scale up with steps to extend coverage

4) Budget Summary

- Decentralization and disaggregation, with specific needs for different levels – (health post to hospital), national survey costs, laboratory, management, social mobilization etc
- Specific needs and costs of medicines projected over 5 to 10 years
- Existing resources, as divided between government and partners
- Resource deficit – gaps to be filled prior to implementation of an integrated Action Plan

Examples in Latin America and the Caribbean

The EGI (Integrated Management Strategies) Dengue program developed by PAHO with the dengue-endemic countries is a model which has proved its utility in the past few years as we continue to combat this widespread vector-borne disease. The strategy is being implemented in numerous countries now from Brazil to Central America and the Caribbean.

This strategy is based on **six core strategies**:

- | | | |
|---------------------------------|-----------------|-------------------------|
| a. Epidemiological surveillance | b. Entomology | c. Environment |
| d. Laboratory | e. Patient Care | f. Public communication |

They are all brought together in a way that

- Encourages behavioral change in the individual and collectively in the community in relation to risk factors inside and outside the health sector.
- Acts in horizontal, intersectoral, inter-programmatic and intersectoral ways in the Planning and Execution of national strategies via technical collaboration (e.g. Work Groups).

Another similar strategy has been applied in the control of Chagas and Leishmaniasis in Honduras, which is also currently considering piggy-backing deworming in the areas where it currently works in areas with high STH prevalence.

The Prevention and Control of Priority Communicable Diseases in South America Program of CIDA/PAHO is another example of an Integrated Program which is currently addressing some of the NIDs: Chagas and congenital syphilis in particular. It is also addressing vector borne diseases as a group and is an entry point for an IVM strategy. Under the IMCI program, Deworming can be added without conflict. The Program works in Colombia, Paraguay, Peru and Ecuador and incorporates the following components or strategies: Integrated Management of Childhood Illness (IMCI) Strategy; Chagas disease; dengue (EGI-Dengue); sexually transmitted infections (syphilis and congenital syphilis) and tuberculosis.

Example of Current PAHO work in Chiapas, Mexico

The PROGRESA/Oportunidades program of the Government of Mexico and IDB focuses on education, health and nutrition for 5 million poor people in Chiapas. It is a great opportunity on which PAHO is currently working, and is made possible by political mandate on NIDs by the new Governor; successes with onchocerciasis and trachoma elimination, an Inter-Agency Technical Group on Water Quality and PAHO decentralized collaboration.

This integrated strategy focuses on NID and works on dealing with water quality (and sanitation); later it may include maternal mortality; tuberculosis, diarrhea, other diseases such as respiratory and HIV/AIDS and coverage of health services coverage.

There are real opportunities to eliminate a number of NIDs in Chiapas. For onchocerciasis and trachoma the ongoing programs for elimination are real success stories. One of the two foci of onchocerciasis in the state has had transmission interrupted and we see no cases of eye disease nor infected vectors. The other focus, in southern Chiapas, will be eliminated by 2012, if not sooner.

Trachoma is found in only five municipalities in Chiapas now, highlighting the success of the ongoing state program which is implementing the SAFE strategy. Malaria cases are infrequent now, hinting that eliminating autochthonous transmission may be achievable. Leprosy cases may have reached less than 1 in 10,000; constant vigilance and MDT will need to continue and be strengthened. Annual rabies campaigns to vaccinate all dogs must continue to prevent cases of human rabies transmitted by dogs.

Some NIDs are not addressed by existing control programs like leishmaniasis and STH but there is opportunity to expand and link several control programs together. Some could be linked through an IVM strategy for the vector-borne diseases. And there is an opportunity to determine the scope and distribution of other NIDs like scabies before determining what additional actions and what integration opportunities exist. For example, there is a risk for leptospirosis and cholera (two water-related diseases that occur in neighboring states), but the full extent of the risks are not mapped out yet.

To put these pieces together in Chiapas in order to design an integrated NID program the following are needed:

- Develop the integrated action plan;
- Conduct some in-depth Stakeholder mapping (not only in the health sector but in other key sectors linked to the key underlying environmental and social determinants of health);
- Determining what services could be delivered in an integrated form;

Some of the possible minimal packages are:

- School-based deworming and other school health programs where both STH treatment and trachoma screening and treatment could occur together.
- Child immunization programs (IMCI, EPI).
- MCH programs for prenatal and perinatal care where deworming can be offered to pregnant women.
- Nutrition and micronutrient distribution programs.
- Annual “health weeks” or “health days”.
- Community directed treatment (onchocerciasis in West Africa).
- IVM, malaria screening and treatment.
- Integration opportunities with other sectors: Water and sanitation, solid waste management, housing, food security/home gardens.
- Also social development programs like PROMESA/Oportunidades in Mexico, FRESH of World Bank, UN Coordinated country strategy (CCS), and sector-wide approaches (SWAPs).

Just looking at the preventive chemotherapy and disease treatment side, we can note that those 3 sets of medicines can be administered safely treated and together in an integrated package, though they are not done this way now. As well, in several countries there is good experience in administering treatments jointly for leprosy and TB. These are examples of what could be done in Chiapas, just on the preventive chemotherapy and treatment side.

Recommendations

- Finish the job of mapping and filling in the information gaps at the national and subnational levels;
- Encourage village/community-based surveillance of NIDs and conditions.
- Implement NID control and elimination through or linked with Primary Health Care programs, where possible and practical.
- Do not limit the approach to Preventive Chemotherapy interventions alone.
- Develop “minimum packages” for single-disease prevention and treatment, and integrated Packages for multiple NIDs.
- Help mainstream the prevention, control and elimination of NIDs.
- Help develop the evidence base for integrated NID control in LAC.
- Do not forget the opportunities and resources in other sectors.
- Seek partnerships and work with stakeholders at all levels.
- Begin with the communities.
- Count on technical cooperation from PAHO/WHO, IDB and other partners serving LAC.

Operational Research and Systematic Reviews

Dr. Zaida Yadon, Pan American Health Organization

Background: Purpose and Need for Operational Research and Systematic Reviews

The purpose of doing operational research and systematic reviews is to identify where gaps of information exist. This is essential to contributing to PAHO/WHO's framework for technical cooperation, which focuses on three main objectives:

- Protecting achievements.
- Addressing the unfinished agenda.
- Face new challenges.

Currently, an approximate \$60 Billion is spent annually on health research, and only 10% are spent on health problems that affect 90% of the population, something that we call the 10/90 disequilibrium. Moreover, it is necessary to take into account that in order to establish priorities for the kind of initiative that we are discussing today, systematic reviews and operational research are necessary.

Systematic reviews and operational research can be used to address certain problems, such as:

- **Science Failures**
 - Lack of vaccine or more efficient and safe drugs to treat leishmaniasis.
- **Market Failures**
 - Pentavalent antimony (Sb) represents high costs (US\$ 180–200).
 - Available treatment options. This progress includes amphotericin B; paromyomycin; the first effective oral agent (miltefosine).
 - These drugs are still being evaluated in both mono- and combination therapies.
- **Public Health Failures**
 - Public health problem due to not only environmental risk factors such as massive migrations, urbanization, deforestation, new irrigation schemes, but also to individual risk factors: HIV, malnutrition, genetic.

In order to address these needs within the context of the trust fund, the following are planned:

- Systematic reviews
- Research
- Development and innovation for neglected tropical diseases
- Evidence informed policy for better decision making, using such tools as EVIPNET, which I will discuss further in depth.

PAHO Systematic Reviews

PAHO is currently developing a series of systematic reviews that will gather and assess available evidence and will emphasize the research gaps, needs and opportunities and facilitate the translation of findings into policy and practice.

- Congenital Chagas disease
- Helminthiasis
- Leishmaniasis
- Lymphatic filariasis
- Onchocerciasis
- Schistosomiasis
- Trachoma

Rough drafts of the systematic reviews are available for visceral leishmaniasis, onchocerciasis and schistosomiasis, and we are in the preliminary phase of systematic reviews for lymphatic filariasis and congenital Chagas disease, which we hope to have by March. We plan on beginning work on trachoma and soil-transmitted helminths by the end of January, 2009.

For these revisions, we have established a coordinating group to develop the framework for the research, and once finished we will set up a meeting with experts, government representatives and control program coordinators, where they will evaluate and validate the findings of the systematic reviews.

We can summarize some of the information gaps that would need to be addressed by this initiative or by research that we will carry out in a meeting on onchocerciasis and visceral leishmaniasis, which I will discuss later.

These are some research priorities for these diseases:

- **For Onchocerciasis**
 - Development of a safe effective macrofilaricide.
 - Adequate tools and strategies for surveillance of recrudescence in areas of which transmission is thought to be interrupted
 - Strategies for access to treatment in remote areas

- **For Visceral Leishmaniasis**
 - Increase the available knowledge of the disease
 - Better surveillance strategies
 - Case managements and better control strategies (dogs and vector)
 - New and improved diagnostics tools
 - New and better drugs and vaccines

Research, Development, and Innovation (R&D&I): Examples of Ongoing Research

- **Examples of Ongoing Research:**
 - New knowledge on Chagas vector transmission projects in Mexico and Amazon basin (non-domiciliary transmission).
 - Development of intervention with an eco-health approach for dengue, malaria and Chagas disease in Argentina, Bolivia, Colombia, Ecuador, Guatemala and Paraguay;
 - Estimation of Congenital Chagas disease burden in 6 countries of the Region.
- **PAHO is working in an innovation program for NIDs aiming to:**
 - Foster the development of an innovation system that can provide the necessary tools to tackle NIDs;
 - It will focus on supporting a reliable and sustainable production of currently available medicines and diagnostics.
- **The program contemplates:**
 - Direct Advocacy;
 - Promoting the development of innovation systems Promoting information and knowledge sharing in areas relevant;
 - Fostering South-North and South-South collaboration

There are examples of what can be done through operational research. For example, we have had some very encouraging results in Guatemala. There, some methods are being used to modify homes using new methods obtained through consultation between Chagas control program, the local university, and with

the help from the community. This initiative includes reforestation with trees that are native to the area and restructuring the areas periphery to the home by taking chickens, which are part of the transmission cycle, away from the homes and into chicken coops.

The program likewise plans on capacity-building, not only in the surveillance of triatomine bugs, but also building capacity with the epidemiological information available both at the level of researchers and at the program level, given that we have noticed a serious deficit in the use of epidemiological information both from the researchers and the programs. All programs need to be strengthened when it comes to epidemiological surveillance. This is being carried out in Brazil, where databases are being built using tableau, which can accept very large databases to analyze all the databases that come in on malaria and have a more capable surveillance system.

Call for Operational Research Proposals, 2009

- Target diseases:
 - Helminthiasis, lymphatic filariasis, onchocerciasis, and schistosomiasis
- Intended recipients:
 - Scientists, and to health professionals working with control programs.
- Dateline: March 2009

Priority Lines for the Call for Proposals

- Onchocerciasis
 - Sustainability of high coverage of treatment;
 - Strategies for conducting surveillance for recrudescence in areas of infection in areas in which transmission is thought to be interrupted;
 - Strategies for mass distribution and access of ivermectin.
- Lymphatic filariasis
 - Strategies for high risk population coverage;
 - Development of guidelines for elimination strategies;
- Schistosomiasis
 - Development of strategies of surveillance, case detection (including parasitological and serological methods);
 - Protocol development for snail/infected snail detection.
- Soil-transmitted helminthiasis
 - Studies to develop an integrated control program of STH and schistosomiasis in countries where both diseases are overlapping (I.e. Suriname and Guyana);
 - Ecological study (in several countries) to see correlation between areas with inadequate sanitation and Soil-transmitted helminthiasis prevalence and intensity of infection.

EVIPNET

EVIPNET is a WHO initiative that encourages policy-makers in low- and middle-income countries to use evidence obtained through research. This collaborative network of researchers, policy makers and civil society aims to facilitate the use of high quality research-based evidence. EVIPNet has been set up in several countries of the American Region:

- | | | | | |
|-----------|--------------|------------|---------------|----------------|
| ▪ Bolivia | ▪ Chile | ▪ Colombia | ▪ Paraguay | ▪ Trinidad and |
| ▪ Brazil | ▪ Costa Rica | ▪ Mexico | ▪ Puerto Rico | Tobago |

A number of them have already developed working proposals. Most of the countries selected one NID as the disease to start working. Some key areas in this initiative will be strengthening capacity in

interpreting systematic reviews or summarizing existing evidence through the development of policy briefs that address a particular question.

Conclusions

- The experience with Chagas diseases, and the achievements gained in the Region with the control of lymphatic filariasis, onchocerciasis and leprosy have shown that when there is political will and resources are allocated to research and disease control strategies (based in evidence) the goal of elimination/control is possible.
- Research on disease causation, epidemiology, control tools, and policy interventions has contributed significantly to control of the diseases included in this initiative.
- Implementation research or operational research is a key tool to support evidence based program development, scale up and share the best practices of Innovation and Research.

Monitoring and Evaluation, Surveillance

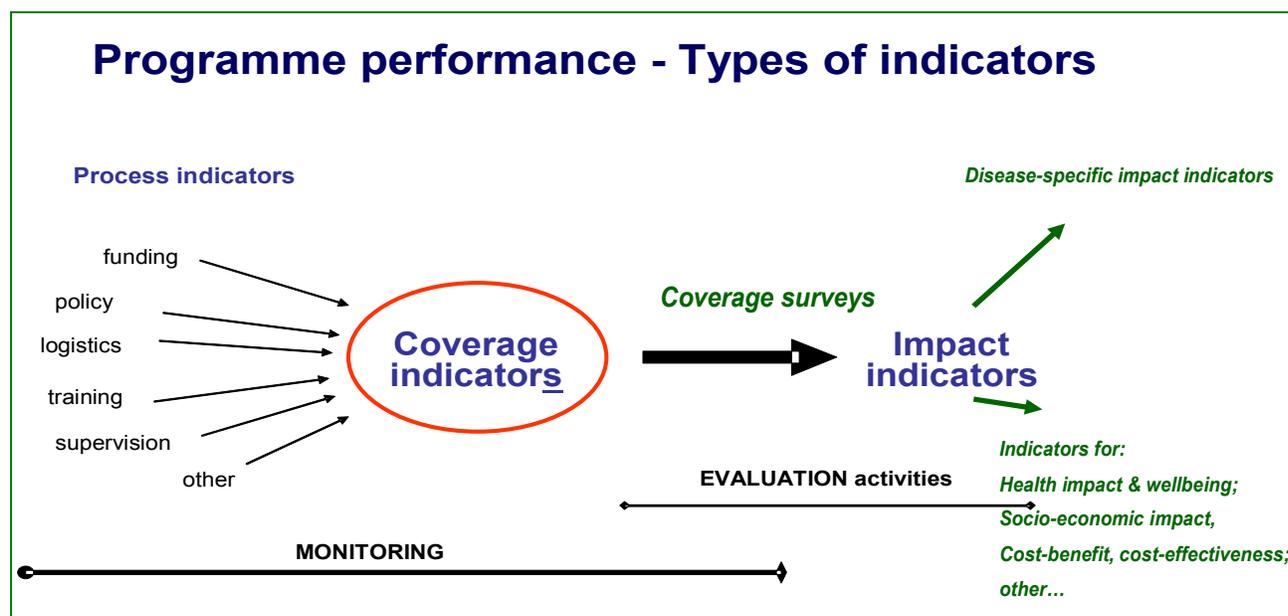
Dr. Patrick Lammie, United States Centers for Disease Control and Prevention

Facts about Monitoring and Evaluation

One of the important things to recognize is an evolutionary process; the guidelines that we use today are not the same guidelines that we will be using in a few years.

Also, we have to recognize that M&E is expensive. Therefore, the technical people have to try to simplify the M&E so that they are collecting the information at the lowest cost. This will imply that we will learn by doing as we go through these types of exercises.

The challenge from the standpoint of the monitoring is to come up with simplified approaches to generate valuable coverage data. We all agree that monitoring coverage is going to be important if we use reward-based systems, e some valid and robust measures of coverage are going to be needed.



Indicators

The indicators of impact are going to be a big challenge in the Region. In Sub-Saharan Africa, we can talk about looking at sentinel sites and monitoring simultaneously various NIDs. If we are delivering four drugs, we can come up with a way to track all so this implies that some of the indicators that we will be using are going to be disease specific and there will be fewer opportunities to integrate those in a manner that will generate cost savings.

A very important point worth reiterating is that as we scale down our programs, costs will not diminish. Ministers are used to thinking that their elimination program costs are going to decline, but as program costs decrease, surveillance costs will increase and our costs will flat-line. This will represent a big challenge, and may present our most important operational research issue.

The Importance of Unifying Guidelines

It is critical that we come together as a public health community to develop one set of guidelines that we can live with. That means that those that work with one disease, are going to have to give something up. It is not fair to expect a country to invest heavily in 6 to 7 different M&E programs.

It is important to recognize the important role WHO plays in harmonizing the M&E. WHO has already taken the initiative of putting the different M&E perspectives into one single technical working group. This is the group that will be driving the agenda in terms of harmonizing the guidelines that we will be discussing in the next few years.

Research Questions

Also important for us is to try to make sure that we pull the operational research that's already going on, into our own M&E discussion. We have an enormous advantage in the NIDs community, but there are already ongoing Gates' supported operational research grants to look at lymphatic filariasis, schistosomiasis, trachoma and integrated NIDs programs. To varying extents, all of these programs have M&E components. We have to make sure to plug in questions into these studies that are really relevant to the Region.

Some question regarding schistosomiasis, as an example:

- What are the appropriate tools in order to look at low-prevalence mapping?
- How do you define in settings where schistosomiasis transmission is very focal, declines in infection prevalence and in transmission?
- What are the appropriate surveillance strategies to use once our programs have been implemented?

It is critical that we use the PAHO, USAID and Gates Foundation research agendas and make sure that we maximize the opportunities here. One of the things that I have not addressed, but is clear is that our focus has to thus far really been on the tool-ready NIDs.

Those of us who have been working on onchocerciasis, lymphatic filariasis or schistosomiasis, are used to thinking that we can go into a ministry and recommend a vertical M&E approach and basically divorce ourselves from any M&E work that is already going on in the Ministry of Health. Within this Region, we have the opportunity and the challenge to look more broadly at the M&E and fit it into a context of already established monitoring program so that it is finally ministry-driven.

Some Advantages of this Region

Diagnostic tools available are great for mapping and give us an idea of where are located our foci, though they are not as good for mapping when transmission is declining.

We have research capacity within the Region. We have the epidemiological settings within the Region to drive the global research agenda for the scaling down and the MDA types of issues. I think that it is important to take advantage not only for the benefit of the programs in the Region but for the global program as well.

We are used to monitoring our diseases one by one. Eventually in this Region, we are going to be stopping MDA for not just onchocerciasis but also over the next 5 year for LF programs, trachoma and maybe schistosomiasis. We have limited areas where those overlap; nonetheless we should start looking at an integrated surveillance platform.

Not only thinking about an NIDs perspective, there are lots of school surveillance programs that are already going on, we need to look for opportunities to sell our platforms so as to minimize some of the demand on the health system.

Challenges

We do not have a framework for those NIDs that are not tool-ready, and we need to make sure not to leave those diseases behind in our eagerness to move forward with the tool-ready diseases.

We need to figure out how to strengthen some of the data management. This is a recurrent theme, the fact that PAHO only has STH data for a minority of the countries. This is an issue that we have to face.

The additional non-disease-specific benefits that will result from these interventions is an issue that we will have to think about. It is difficult to have good sense on how to build these in. Maybe at this point they may be more operational research questions than public health practice.

The biggest challenge will be how to make sure that we're not leaving a lot of these issues behind as we move along with the NID Trust Fund. This is a great opportunity, but we do not want to miss the chance to address some of these critical operational research issues.

Discussion

Chair: Dr. Peter Hotez, Sabin Vaccine Institute/Global Network for Neglected Tropical Diseases

Peter Hotez

- To summarize today's discussions; we heard a lot about the opportunities that exist in the Region and the use of the trust fund for implementing solutions. A lot of these solutions will come with add-on costs, and so decisions will have to be made about which are appropriate and what is not.
- Frank Richards made an eloquent plea for malaria for Hispaniola and presumably in the Amazon Region. Most likely, this would not be in the purview of the NID Trust Fund, but it means that

there will have to be a representative from the trust fund to work with the Global Fund, to see if we can work together with malaria programs in the Region.

- Steve Ault similarly made a plea to look at integrated NID control in the context of programs for childhood immunizations, micronutrients, maternal/child health and adolescent health. This poses the question of which of these challenges will be supported by the trust fund. Or, on the other hand, if there is a need to find co-funding; or perhaps we could use the challenge grant mechanism. Particularly in Latin America, where much emphasis is given to intersectoral approaches, the question also arises: what part of that intersectoral approach will be part of the NID Trust Fund.
- Many M&E initiatives are underway, including this important monitoring and evaluation working group that will be meeting at the WHO. There will be some M&E issues specific for this hemisphere, particularly for the diseases for which we do not have preventive chemotherapy solutions. Again, will this be something that the NID Trust Fund takes on, or is it something that should be left to the WHO? And, therefore, would you need to create a separate working group in Geneva for each Region.
- Clearly, proposals for operational research are important. The Gates Foundation is supporting operational research, but how much do we consider building it into the NID Trust Fund? Perhaps an open source mechanism would be useful in ensuring these are going to be pertinent issues as well.
- Some diseases did not have such high priority, and we do not want to get in the position of neglecting some NIDs ourselves. Frank talked about taeniasis/cysticercosis. I would also add fascioliasis and strongyloidiasis.
- When looking at some of these vertical control programs, where we currently have the financial mechanisms going through the countries, how are we going to coordinate these efforts, (e.g. in a program like OEPA) so that not every country is buying their own medication and are instead integrated into a cohesive and coherent framework?

Amanda Glassman

- I see the reason behind having a global M&E task force, in order to keep synergies. However this might be different in Latin America and the Caribbean because we have such low prevalence of these diseases—I hope that this global group will think about what would be a Regionally appropriate response. For instance, we do a lot of household evaluations of the extreme poor in the Region, and I think it would be useful to take the top 50–100 hot spots, start a panel of extreme poor households, and do comprehensive door-to-door health surveys to map the prevalence of these diseases. This way we would have a population-based estimate of the situation – given that we do not really know that much and I am not confident about the quality of the current administrative databases.
- The IDB could achieve some economies of scale by taking some samples from our conditional cash transfer programs targeted to the extreme poor. The IDB is already looking at anemia and food consumption as well as other factors, so it would not be that much more difficult to add a survey about these diseases as well.
- A study of health facilities in these areas will be needed to clear up the reasons why children are not being dewormed during these visits. Is it due to lack of drugs or maybe lack of political support?

Dirk Engels

- The Global Working group for M&E will not discuss Regional issues but methodologies. How these methodologies are to be applied will be up to the Region.

Pat Lammie

- Surveys sound good on the surface but we have to be judicious in choosing the diseases that would be included. For onchocerciasis or LF we basically know those are relatively expensive and I do not see a particular role there. For STH this might actually make sense so to have some robust data. We would have to look at the disease one by one to figure out where to do it. If the surveys really do represent 1% of cost, that is a tremendous bargain, and I hope we can match that low cost in moving forward.

Mark Eberhard

- Expectation on the part of the population is as critical as a vaccination. We can potentially make it so that getting children dewormed is part of the normal expectation, and we can use the fund to drive that

Kari Stoever

- The initial funding from the Gates Foundation envisioned the NID Trust Fund serving as a nexus where we are all bringing our thoughts together, but supporting structures around it are needed:
- A series of working groups are desirable, specifically a Regional M&E working group, managed by PAHO and other technical experts, which would then feed up to the global M&E to then see if we were meeting global goals.
- Also, a technical working group will have to address the unique technical challenges for Latin America, both in the approach to the individual and to the group of diseases that the group chooses to prioritize.
- There is also funding available for Regionally specific advocacy and fund-raising—recognizing that fund-raising in the Region is going to be different and we need to adapt to meet our goals. Those three working groups will be supporting the NID Trust Fund to evolve and achieve its goals through the Bill and Melinda Gates Foundation Grant.

Country Round Table: Pertinence of Proposed Trust Fund

Chair: Dr. María Elena Bottazzi, The George Washington University

Focus: Current Situation of Surveillance and Control Programs for NTDs in the Countries— Strengths, Weaknesses, Opportunities, and Threats (SWOTs) and How the Trust Fund Can Complement Existing Plans

Brazil

Eduardo Hage, Ministry of Health, Brazil

Epidemiological Situation and Goals for NTDs in Brazil

Diseases	Goal	Year	Comments
Lymphatic filariasis	Elimination	2020	--
Onchocerciasis	Elimination	2012	--
Schistosomiasis	Control	--	Reduce prevalence to <5% Reduce morbidity & mortality
Soil-transmitted helminths	Control, 75% of school-age children treated	-- 2010	Reduce morbidity
Trachoma	Elimination	2015	As a cause of blindness
Chagas disease	Elimination of vectoral transmission	2006	Resolution of World Health Assembly (WHA) calling for elimination by 2010
Leishmaniasis	Control	--	Visceral leishmaniasis (VL): Reduce fatality rate to <2%
Human rabies transmitted by dogs	Elimination	2012	Zero cases in 2008
Neonatal tetanus	Elimination to zero cases	2010	For the Americas, reduce incidence to <1 case per 1,000 live births
Congenital syphilis	Elimination goal of <0.5 cases per 1,000 live births	--	--

Ministério
da Saúde



- **Schistosomiasis:** Elimination is not feasible; the goal is to control the disease in order to reduce morbidity and mortality. There are effective tools for this disease. It is feasible to reduce transmission to under 5%.
- **Trachoma:** The goal is of elimination of avoidable causes of blindness by 2015.
- **Leishmaniasis:** The case-fatality rate is currently 10%. The goal is to reduce fatality and to achieve elimination, if not reduction, in endemic areas.
- **Rabies Transmitted by Dogs:** It is feasible to achieve the goal of elimination before 2012.

Trust Fund Contribution to Maintaining the Political Support Necessary for the Prevention, Control or Elimination of Neglected Diseases

In reference to diseases where the goal is of elimination, the NID Trust Fund will contribute to:

- Maintain all management levels as priorities, as well as the interest and awareness of healthcare professionals, since the low occurrence or absence of cases might reduce its importance as a public health problem and the resources allocated for their control might decrease.

In reference to diseases where the goal is of reaching control, the NID Trust Fund will contribute to:

- Ensure the sustainability and make use of the most cost-effective interventions.
- Maintain health issues on the political agenda—especially with PAHO’s support.
- Support the development and application of epidemiological analysis methods that allow for the identification of priority interventions, population groups and territories.
- Support capacity building for monitoring and evaluation, based on efficiency and effectiveness of the prevention and control interventions, with the participation of external actors.

Trust Fund Contribution to NID Prevention and Elimination Programs in Brazil

The NID Trust Fund will also contribute to:

- Prioritizing most vulnerable groups, such as indigenous population, “*quilombos*”, and other populations with reduced access to services.
- Supporting the maintenance of the human, material, and financial resources of the country.
- Supporting capacity building in management and epidemiological intelligence in order to enable the use of information systems at the municipal level.
- Developing training tools for health professionals, production of educational materials, use of communication methodologies and distance learning (telemedicine) (bearing in mind for example the personnel that works in the Amazon subregion and are in remote places).
- Supporting the development of the knowledge, technology, and research:
 - Simple and rapid test for epidemiological surveys.
 - More accurate diagnostic test for routine use in leishmaniasis, Chagas disease and leptospirosis programs.
 - New effective strategies for the control of visceral leishmaniasis.
 - Developing low-cost drugs with easy distribution and sustain production by countries of the Region (leishmaniasis and Chagas disease).
 - Information technology for the development of data report and analysis software for health.
 - Supporting the use of GEO-processing and spatial analysis methods.
- Facilitating technical exchange among countries on clinical management, surveillance, laboratory, and disease control, for the development or enhancement of technologies for prevention and control.
- Promoting use of evaluation methodologies for disease prevention and control based on adequate epidemiological and operational indicators.
- Support the enhancement of the surveillance systems in the Region.
- M&E shall prioritize efficiency and effectiveness, not just track coverage data from MDA interventions.

Additional Comments, Remarks, and Suggestions

- **Control strategies** achieve a greater impact when they are implemented jointly, accordingly funding from the trust fund should not be restricted to chemotherapy. There are some diseases for which Brazil will not use MDA, such as STH or schistosomiasis, because unless you combine them with other intervention prevalence will reach baseline levels in five years, as several researches show since the 1980s.
- **All diseases have their own monitoring and control program** but helminthiasis control activities are included within the schistosomiasis program.
- **Onchocerciasis** program jointly acts with Venezuela's government, in order to work with the Yanomami communities that move between borders, which represents a great difficulty.
- **Schistosomiasis:** Currently, communities are classified as highly prevalent when prevalence is over 15% while 15–20 years ago it was considered 50% as the threshold.
- There is no **STH** National survey, the last survey was conducted during 1950. There are a lot of localized studies, but their data do not represent the rest of the population.
- **Trachoma:** In 2008 a national prevalence survey was conducted at schools, taking a representative sample of the communities. The extent and importance of this disease was unknown but it has been revealed that 15% of the surveyed municipalities have prevalence over 10%.
- **Chagas Disease:** Interruption of transmission by *T. Infestans* has been achieved for the entire country as of two years ago. More than 95% of the blood screening is reviewed for *Trypanosoma cruzi*. During the last years an increase in oral transmission of Chagas disease has been observed—the reasons are still not completely known.
- **Leishmaniasis:** Both visceral and cutaneous leishmaniasis have a great importance in Brazil.
- **Leptospirosis:** With more than 1,000 cases per year and with a high case-fatality rate, it is also an important disease.

Colombia

Dr. Rubén Santiago Nicholls, Ministry of Social Assistance, Colombia

Analysis of the Surveillance and Control Programs in Colombia

Strengths

- Surveillance system jointly ran by the Ministry of Social Protection and the National Institute of Health (INS).
- Except for trachoma and STH, official surveillance protocols have been established with notification procedures and tools (unified declaration file) for all the diseases.
- Country capacity for reaching external financial sources like the Global Fund for HIV/AIDS, malaria and tuberculosis.
- The INS serves as the operational organism for surveillance and as the national reference laboratory.
- Existing research team with the capacity for providing technical support to the prevention and control programs.

Weaknesses

- Lack of awareness on the importance of investing in some NIDs. There is a lack of political visibility despite the research inputs.
- Lack of political will resulting in a lack of medium- and long-term programs (e.g. Chagas disease and for STH.)
- Inefficient use of the available resources for surveillance, prevention and control activities.
- Increased intersectoral collaboration is needed (Education Ministry, Environmental, housing and development Ministry...)

Opportunities

- Growing International concern about NIDs.
- External funding to support making national programs possible.
- Considerable amount of knowledge generated by research groups.
- Possible research collaboration.

Threats

- Reduction of budgets for to prevention, control and elimination of NIDs due to the world financial crisis.
- Competition for resources with politically prioritized diseases such as malaria or dengue.

Trust Fund Contributions to NID Prevention, Control, and Elimination Strategies in Colombia

- The NID Trust Fund can undoubtedly contribute to obtaining the necessary political support especially if complemented by backing from international organisms like WHO/PAHO advocating for the implementation of programs pursuing WHO/PAHO goals.
- It is necessary to convince decision makers about the importance and cost-effectiveness of investing in NIDs prevention, control and elimination programs. It is then necessary to be able to answer the questions of how much the programs will cost, and what the expected benefit is.
- The possibility of obtaining external funding for matching the existing national budgets can stimulate the strengthening or implementation of the NIDs prevention, control and elimination programs.

Additional Comments, Remarks, and Suggestions

- Colombia has the capacities and conditions to apply for and receive Challenge Grants.
- The most appropriate financial mechanism for Colombia will be Traditional Grants.
- If receiving the funding from the NID Trust Fund Colombia could be committed to:
 - Update STH epidemiological situation: prevalence and parasite load mapping in a representative sample of school age children of the entire country to be conducted during 2009–2010.
 - Formulate and implement a National MDA Program based on the survey results following WHO strategies.
 - Prove the existence or absence of trachoma in Colombia because no evidence is available on the topic. New studies are needed to prove it.
- The positive aspects of the NID Trust Fund proposal worth pointing out are:
 - Emphasis on comprehensiveness: work and intersectoral collaboration supported to deal with environmental and social determinants of NIDs.
 - Multifaceted approach.

- Institutional capacity building on NIDs mapping and strengthening of the existing surveillance Systems (SIS)
- Technical support is foreseen to improve health services.
- A multi-phased financing is proposed. As an example it is suggested that in a first phase an update on mapping and epidemiological situation can be financed, followed by a second implementing phase which can be planned and budgeted based on the survey results of the first phase (STH, trachoma, occasionally and taeniasis/cysticercosis).
- Monitoring the achievement of the goals is needed. Impact evaluation in addition to process evaluation.
- It is desirable that NGOs be financed, but that they should work in coordination and with the full knowledge of national authorities. It would also be preferable if NGOs worked under the frame of national programs so that activities from different institutions can be coordinated.
- Helminths: this disease is the most neglected by authorities, there is no consciousness about its importance. The last prevalence data available at national level date back to 1980. Localized studies have different methodologies resulting in a problem because it is difficult to compare data between them.
- Data is still needed on neonatal tetanus and congenital syphilis.
- Chagas disease and leishmaniasis are the two biggest NIDs problem with more than 5 million people at risk. Chagas disease is not being considered a priority disease for control and interruption of its transmission by *R. prolixus* has not yet been achieved.
- During the last three years more than 30.000 cases of leishmaniasis have been reported. All rural population is considered to be at risk.

Dominican Republic

*Manuel González de Peña, National Program for the Elimination of Lymphatic Filariasis,
Dominican Republic*

Analysis of Surveillance and Control Programs in the Dominican Republic

Strengths

- Existing control programs for all NIDs except for schistosomiasis.
- Parasitology program recently assigned to CENCET.
- Qualified human resources.

Weaknesses

- Lack of research-based knowledge on health problems.
- Lack of resources (human, financial, etc.)

Opportunities

- Elimination opportunities.
- International alignment for elimination of NIDs.
- Progress in the implementation of the national Social Security System.
- Progress in the development and training of primary health care professionals (UNAPS).
- Funding available from the malaria Global Fund.

Threats

- Insufficient commitment from authorities.

Additional Comments, Remarks, and Suggestions

- In order to guarantee sustainability it is suggested to include requirements in the country agreements such as:
 - Development of NIDs programs if not yet available;
 - Inclusion of the programs in the national budgets;
 - Established deadlines and mechanisms for verification of accomplished commitments.
 - Public presentation and signature of agreements to increase political commitment

Guatemala

Zoraida Morales, Ministry of Public Health Social Assistance, Guatemala

Analysis of Surveillance and Control Programs in Guatemala

Strengths

- Human resources committed to improve program activities in order to achieve the objectives.
- Technical and financial support from international organizations (PAHO, JICA, OEPA, etc).
- Political will to improve disease elimination procedures.
- Community participation has been maintained.
- Supported coordination units with great expertise from MSPAS (CNE, PROEDUSA, and SIAS).

Weaknesses

- Not enough financial resources available for disease management and surveillance.
- Budget not equally distributed.
- Distant communities with difficult access to health services.
- Deficient sanitary system (safe drinking water, sanitation, drainages, etc.).
- Strengthening health promotion and local supervision needed.

Opportunities

- Extended coverage program instituted in health districts.
- Organized groups and community participation for awareness and treatment activities (absent search, reluctant cases).
- Health promotion and education in health districts.
- NGOs, Universities and Municipalities are highly committed.

Threats

- High turnover rate of community workers (lack of interest, lack of incentives).
- High turnover rate of institutional staff (area managers) and resignations of trained staff due to low salaries.
- Difficulties in drugs procurement.
- High delinquency and insecurity.

Trust Fund Contributions to NID Prevention, Control, and Elimination Strategies in Guatemala

- Gain or maintain political will for NIDs prevention, control and elimination;
- Promote the Budget assignment for NIDs prevention, control and elimination strategies from the Ministry of Health;
- Strengthen or implement when unavailable programs for prevention control and elimination of NIDs.

Guatemala is aiming for:

- Elimination of Chagas disease transmission by *R. prolixus*.
- Elimination of the central foci of onchocerciasis.
- Elaborate and implement the National strategy plan for leishmaniasis (mapping of endemic areas, vector identification and epidemiologic surveillance in endemic areas).
- Elimination of visceral leishmaniasis.

Additional Comments, Remarks, and Suggestions

- Guatemala does not meet criteria for applying for Challenge Grants. There is not enough human resources and surveillance data is inadequate (Leishmaniasis).
- Guatemala meet criteria for applying to traditional grants.
 - Admission criteria: Limited financial resources; high disease burden; elimination goal for onchocerciasis and Chagas transmission by *R. prolixus*.
 - Selection criteria: program feasibility, programs focused on health inequities intersectoral implemented (NGOs, Universities, etc.).
- Bonus grants could apply for Chagas disease.

Guyana

Shamdeo Persaud, Ministry of Health, Guyana

Analysis of Surveillance and Control Programs in Guyana

Lymphatic Filariasis

- 9.5% prevalence in 2001 among school-age children.

Strengths

- Political Will.
- Existing Program including a CARE Program.
- Some background data and mapping.
- Results from DEC Salt effort (I think that we need to be very careful with this initiative when it comes to the medication, especially during the process of presenting the idea to the population, for example, we had a major glitch with DEC salt in that it made all of the salt turn blue, complicating our efforts).

Weakness

- Limited subnational capacity (even with help from PAHO and other international aid, we had the problem of there being only a few people managing all of the programs, which weakened the overall efforts).
- Technical capacity.

Opportunities

- Active malaria program with a strong ITB component.
- Synergies with STH and other community-based efforts

STH

These are present throughout the country, but are a burden especially in the hinterlands, where it is common for children to walk barefoot, and in pockets on the coast that are mainly rural, agricultural areas,(where it does not overlap with Malaria) where people who cultivate sugar and rice spend much of their time exposed to the soil.

Strengths

- National partnership and Political Will.
- Existing School Based Program.
- Community Program Pilot in Region V in 2008 (38,251 doses distributed).

Weaknesses

- Limited integration in subnational levels.
- Laboratory and technical capacity.

Opportunities

- Synergies with Maternal and Child health and School Health Programs.
- National Initiative of joint LF/STH MDA in Region V.

Chagas Disease

Strengths

- Integrated Centralized Blood Screening;
- Entomological surveillance (TCC – Colombia/Guyana);
- Diagnostic capacity (TCC – Brazil/Guyana).

Weakness

- Lack of Surveillance and baseline data;
- Incomplete mapping and clinical data.
- Lack of subnational capacity.

Opportunities

- Expanded Malaria Control programs in the same areas with vector
- Vector control program

Leishmaniasis

Strengths

- Some diagnostic capacity (collaboration with Brazil).
- Links with Vector Control Program and skin clinics.

Weaknesses

- Lack of surveillance and baseline data.
- Incomplete mapping and clinical data.
- Lack of subnational capacity.
- Quality control for laboratory.
- Limited availability of medicines and clinical care.

Opportunities

- Expanded Malaria control programs in the same areas with vector.
- Vector control program.

Trust Fund Contributions to NID Prevention, Control, and Elimination Strategies in Guyana

- Support innovative ways to help in NTD control, such as spending on capacity building in microscopy throughout the country to test stool samples among others deliveries.
- Several collaboration efforts with Brazil, Columbia and Venezuela.
 - Training and capacity-building.
 - Entomology and surveillance.
- Medicines and diagnostic materials: MOH (obtaining these is a big challenge for us, as we normally only buy in small quantities).
- Program structure in place with vertical focus on some diseases, limited local expertise. (Currently there is the need to work on brining everyone together to come up with a mechanism where we can get all of these programs together, and feeling like part of a joint effort, and working effectively together).

Additional Commentaries, Remarks, and Suggestions

- Guyana has a centralized blood-screening system, where systems are currently being put in place for the screening of Chagas, and which has routinely been screening expectant mothers for syphilis, reason for which we have not had a case of congenital syphilis since the late 1980s.
- 70–80% of mortality and morbidity are due to ARI, gastroenteritis and unspecific fevers, also leptospirosis and dengue fever are growing problems in the country in recent years.
- Program structure in place with vertical focus on some diseases, and limited local expertise.

Honduras

Concepción Zúñiga, Ministry of Health, Honduras

Analysis of Surveillance and Control Programs in Honduras

Strengths

- Political support.
- Technical capacity.

Weaknesses

- Honduras depends on external cooperation for dealing with NIDs.
- Scarce and weak public health staff.

Opportunities

- External cooperation believe in the strategies been develop in Honduras.

Threats

- Sustainability.

Additional Comments, Remarks and Suggestions

- Traditional Grants are more feasible and accessible so that different levels can develop activities.

Honduras can be committed to:

- **Chagas**
 - Elimination of transmission by *R. prolixus*.
 - 100% coverage for diagnosis and treatment.
 - *T. dimidiata* presence has been controlled in housing.
 - 100% screening of blood donations.
- **Leishmaniasis**
 - 0% visceral leishmaniasis prevalence registered.
 - 100% treatment coverage for all leishmaniasis cases.
 - Vectors and parasites characterized.
- **Human Rabies Transmitted by Dogs and Taeniasis**
 - Human rabies transmitted by dog eliminated from urban settings.
 - Taeniasis controlled in rural areas.
- **Soil-Transmitted Helminths**
 - 75% treatment coverage in school age children twice a year.
 - National evaluations conducted every two years.
 - Evaluation of behavioral changes regarding hygiene habits.

- A separate evaluation for each country is requested.
- Take into account indicators and proposed long term strategies suggested by countries.
- The NID Trust Fund should complement the ongoing strategies such as the Chagas disease program or the leishmaniasis program (2008–2015) so that it supports activities for the other diseases.
- Adjudication of the project to one NGO is suggested once the proposal has been approved.
- The Honduras project will be focusing on:
 - Elimination of human rabies transmitted by dogs.
 - Taeniasis and cysticercosis control.
 - STH control.

Closing Discussion and Next Steps

Chairs: Dr. Jarbas Barbosa, Dr. Kei Kawabata

Manuel González – Dominican Republic

- *[In response to the question on how the Dominican Republic plans to maintain disease control in the areas next to endemic areas in Haiti]* Efforts to fight against LF in border areas with Haiti have advanced sufficiently. There was a concern about the possibility of migrants coming from Haiti to the Dominican Republic that could be infected, but no cases have been found in these border municipalities, which shows the efforts being made by Haiti (based on the use of DEC-salt and DEC and albendazole tablets) are effective. The only strategy against this threat is to continue surveillance.

Debra Briggs

- All the countries here have a problem with rabies. PAHO has done an extraordinary job to try eliminating rabies from Latin America.
- Two years ago, some partners got together to figure out what else can be done: WHO, PAHO, CDC, FAO, OIE, to establish national rabies day. On September 28th, World Rabies Day, over 185 countries are promoting rabies prevention. Every state in Brazil conducted rabies activities such as vaccinations, awareness campaigns, etc. Haiti decided to take the advantage of World Rabies Day to restart their programs with the help of Brazil. This is a way that this organization could use as an integrated approach to increase rabies awareness and use this day to conduct various programs in order to eliminate human rabies in the countries infected.
- I would encourage, as we look for synergies that we look to World Rabies Day as an opportunity to promote the fight against rabies in the Region.

Peter Hotez

- I am concerned that for this initiative to succeed, it might have to embark on campaign to spread knowledge about these diseases.
- The reason I say that is due to STH—these groups are the most common infections in these countries. The major reason that children are not developing; retarding future wage capacity by 43% and affecting a very high percentage of the nation's children. However the data produced by representatives from the countries here on STH is negligible. Honduras was an exception, but for the most part, there was no data. It says to me that the ministries of health have failed to recognize the importance of these problems.
- These diseases are treated as if they were part of the normal flora or fauna, rather than the problems that they are.
- I would like to ask the representatives: what do you think we need to do in order to help you build the case that these diseases are worth investing in?

Kari Stoever

- I would like to ask to the countries how they think that this new partnership with PAHO, IDB, and the agencies present can put pressure on your Region to take action against NIDs.
- We need donors in order to gather the political will, but we also need political will to continue to interest donors. We have the next year to bring the message to the countries; is there a way that PAHO could issue a new resolution, and get the countries to sign on?

Colombia - Santiago Nicholls

- I think that the question is very important. In addition to the NID Trust Fund, more advocacy is needed from national organization, and PAHO will play a key role.
- Perhaps the people at the deciding levels are unaware of these figures and facts – such as when someone is affected by a parasite their earning capacity decreases. We have to make the decision-makers aware of the importance of these issues.
- It is worth nothing that oftentimes when speaking to the countries, the question asked for which we do not normally have an answer is: how much is going to cost and what the benefits are going to be.

Jarbas Barbosa

Data Quality

- All of the countries have different ways for issuing data. The paper about the GAVI initiative published in the Lancet tackles the issue that some countries issued unreliable data in order to meet performance-based goals and maintain financing. We have to build in some guarantees into the mechanism of this trust fund to ensure quality of the data reported, but also making them flexible. External audits might be necessary.

Diseases

- We will organize a meeting in order discuss the technical issues on what would be the most effective list of diseases to work on.
- We are not thinking about the traditional list of neglected diseases; these are only a part of the proposal. The aim is to ask ourselves, how we can speed up what we are already doing but also complete the unfinished agenda for the Region and work on the basis of diseases in the Region which may not have high numbers at the national level but bears a high burden at focal levels.

Development of New Tools

- I share the concern about whether we will be able to control all the diseases with the tools available today. There are consensus on interventions, but also we need to keep in mind that there is a number of groups that this initiative can support in order to develop new tools, for instance in the case of visceral leishmaniasis where we are using currently the drug developed 40 years ago which has to be delivered by highly qualified professional because of its severe adverse effects. New and safer drug are needed and they shall be easy to deliver to allow us to decentralize the treatment.

Advocacy

- We intend to present a resolution to the PAHO governing bodies so that it creates commitment within the countries.
- In the next congress on tropical medicine a NIDs workshop should be placed where PAHO and ministries can discuss how this plan would work at the country level.

- For all of the countries in the Caribbean subregion, we need to develop a schedule to come up with a consensus.
- This broad spectrum of institutions tells me we may have some challenges in entering the data and developing surveillance, etc. but it is just a question of time—we need to have a strong resolution and technical support from the countries to get this adopted.
- I would like to congratulate all the countries and agree with them on the fact that we are dealing with a major challenge but we shall be optimistic and be conscious that we do have some time to get prepared.
- One of the strengths of this project is the commitment shown by countries as well as by the wide array of organizations present at this meeting.
- We also need to get society involved. We are talking about diseases where most of the population does not consider them to be a public health problem. Society currently does not get involved because these diseases affect population without political representation.

Amanda Glassman

- We have to sell the fund as a way to protect this essential function of public health programs or helping to create new programs.
- On the area of advocacy: when we talk about studies on the impact of these diseases on future income, we face the fact we do not have data from our Region. These kinds of studies are only available for the south of US and for Africa. This research needs to be done in our Region to help us advocate for this cause.
- The USAID Presidential initiative, if fully funded, could bring 350M to fight against NIDs. We've been trying to think of ways that this could be adapted to the Latin America Region so that countries do not have to apply separately to USAID and to the NID Trust Fund. We will try to pull together the processes to make it more accessible.
- Countries repeatedly noted that they expect that the NID Trust Fund would bring attention and mobilize political will around it, and simultaneously bring intersectoral support for the control of NIDs. It makes me wonder if it would not be beneficial, given that USAID has links with the Ministries of Finance, Health and others, would it be useful to work with USAID for it to help leverage its work on water and sanitation around these diseases?

Kei Kawabata

- As mentioned earlier, Spain has provided a huge grant to the IDB— for example in Honduras, there's a strong country-donor mechanism with USAID, IDB, WB and others, which also exists in other countries, so whatever the formula, IDB will work strongly so that beyond my level we can maximize the work. I feel that the more we coordinate, rather than try to leverage in a bilateral way, the greater the impact will be for the countries.

Honduras - Concepción Zuñiga

- We have to figure out the appropriate mechanism for achieving coordination. At the Ministry I often do not know what the other programs are doing and a real coordination does not exist – meanwhile there are so many initiatives that it becomes hard to keep track.
- In my country we have a program for teenagers, infant mortality, and comprehensive care for women. The focus of those programs is to reduce infant mortality and maternal mortality,

however when we take a look at the policy, it is very general and too vague know clearly what needs to be done to attain the goal. We should make it clear that our programs contribute to these goals—when we treat a child with parasites or Chagas, we are helping to reduce child or maternal mortality, even without having to build 5,000 homes.

- Results of the international help are sometimes difficult to see as most of the funding goes towards hiring consultants, and people from outside who are restricted to one particular program not being able to do anything else. Funds bought for a certain purpose can not be used for any other purpose.
- We have had some issues with some practices of outside agencies. For example, some organizations such as the Global Fund bring outside prescriptions that the country has to follow without consulting the details with the country beforehand, and this makes programs unsustainable. As another example I will cite the tuberculosis program that is not running nowadays because there was not a sustainable action; this left many people waiting for the money to arrive in order to continue with the activities.
- I bring this up as a warning. Some aspects of these programs may not have been asked for by the countries specifically because they would be unable to absorb them. That is why I say that if we already have a program for NIDs, we can work within that program. For example, our program for Chagas will now have to deal with Leishmaniasis, rabies and STH. For these 4 problems, the commitments have been made and we will work hard on them. However it is different when the countries have not made the commitments.
- On the issue of sustainable funding, currently the work being done on STH is good, and we will be reaching 1.5M children next year, but this is currently under the office of the first lady, and so political and may be discontinued soon. Very often what we need is political support to include all of these activities in one program so that it can succeed.

The Dominican Republic - Manuel González

- The focus on integration of this initiative is extremely important; without it we can not assure the sustainability of these programs.
- I claim that no one is a prophet in his own land. Just for coming from the outside, many suggestions will receive better attention than if they were coming from a group within the country. However, the best people to do advocacy are the people within each of our countries – local resources – an it is important to outreach to them, and then we could have a follow-up program for the ministers. Without the support of the ministers, gained with the help of local advocacy groups, local authorities will not support the programs and these will not be sustainable.

Guyana – Shamdeo Persaud

- We would advocate for a single type of funding mechanism, and for the coordination to be done from elsewhere. Countries with small programs are capable of carrying out the tasks on the field, however, it is not as easy for them to also coordinate with other donors, etc, and that might be something that is worth doing from a more central office, in PAHO, for example.

Kei Kawabata

- The NID Trust Fund can provide a more efficient mechanism to strengthen development; however it is still necessary that other donor organizations use their influence within the countries to push forward the agenda.

Ximena Aguilera

- IDB, GN and PAHO as organizers of this meeting can say that this initiative has had very productive comments from the countries. All of the countries have positively valued the flexibility of the NID Trust Fund and have shared their commentaries and suggestions. Some countries commented on the mapping, inclusion of other diseases such as leptospirosis, working on the grant mechanism of the fund, ensuring community participation, etc.
- As an organization, several windows of opportunity are open in going forward. One of the tools at our disposal is a resolution. It is true that a resolution is not enough on its own; however, the idea is to come up with one that establishes political commitments, and then to give it the proper follow up.
- Now, we have to come up with a schedule to discuss the resolution as well as the indicators. We also have to have other discussions in progress, such as on the addition of new diseases.
- The goals and indicators that will be included in this resolution will have to be discussed with the countries. In going forward with the diseases, we have to work keeping in mind that there are diseases for which elimination is feasible because they are focalized, others that need to be controlled, and others for which we have to focus on research and find the appropriate tools and treatments. All this will be systematic work that PAHO will be glad to offer.

Guatemala - Zoraida Morales

- PAHO has a great influence in the countries so a new resolution will bring new commitment from the countries.
- This initiative is a great opportunity because it does not focus in just one disease but it relates to several diseases related to poverty. As Guatemala's vice president is a medical doctor and is very concerned about health, this initiative will be well received.
- International organizations are great for advocacy and the countries can contribute to the rest of the activities as we are committed to the health of our people.
- I believe that what we are talking about here is not really about neglected diseases, but really about neglected *people*.

Amanda Glassman

- I will suggest using this group that has participated on this meeting as a permanent consultant mechanism for this proposed NID Trust Fund. This meeting has been of great importance for the future of the proposal.
- Some of the issues raised during the meeting were:
 - Assuring equity when distribution the funding, the importance of M&E
 - Gather evidence to help us advocate
 - The need to redefine the concept of Bonus Grants that could change to “Innovation Grant” – this was not meant to pay people to keep on with their treatment but was designed to reward programs that integrate health and education or other intersectoral approaches;
 - South-South cooperation;

- Procurement issues;
 - The need to establish a baselines and the need to work in phases.
- I really appreciate that all the types of grant were of interest and that all types will be requested by one country or another depending on their situation.

Paulo Teixeira

- PAHO's environmental department that works on water and sanitation thanks the invitation and will be glad to contribute to this initiative.

Kei Kawabata

- I would like to thank everyone. This is excellent proof of donor coordination in full partnership with the countries involved. If we can come across successfully with this, it could serve as a flagship model to other areas and I'm sure that the will is certainly there and that we will succeed.
- I would also like to thank PAHO, Sabin/GN, and USAID for bringing this topic to the G8's attention. We look forward to upcoming money passing through congress, as every cent is helpful.
- On behalf of the IDB, I give my personal commitment, as well as that of the Social Protection and Health department to this initiative, make sure that we make it an intersectoral commitment.

Peter Hotez

- As you know, this Region was the first to eradicate polio and measles, and has served as a model for international public health trends. It is not surprising that this Region will be the first in establishing a finance mechanism for NIDs control, and I have no doubt that this Region will be the first to eliminate onchocerciasis, LF, trachoma and leprosy, and to make great inroads in the control of STH and schistosomiasis. We have every reason to continue this incredible trend due to the work PAHO, the IDB, and of course the countries themselves.

Jarbas Barbosa

- I would like to thank everyone from the IDB, GN and from PAHO that have been involved in launching this initiative and organizing this meeting. Also I will like to thank the representatives from the countries and all other institutions.
- I believe there is a great time for this initiative. There is a general awareness on NIDs not only in regions like Africa but also in our Region.
- We are so accustomed to thinking of a certain threshold that is acceptable for diseases, such as below a certain incidence level. We have to change this perspective to one that considers elimination of these diseases as the only acceptable outcome, thereby taking off this additional burden on poor populations. This is part of PAHO's commitment with public health.
- I believe that through this meeting, a new group has been formed which should be kept together through the creation of this new proposal. Thanks to the commentaries received over the course of this meeting we will be able to present a high-quality proposal to the countries in the Region.
- Again, thank you all.

Annexes

Annex I: Agenda



Consultation on a Latin America and Caribbean Trust Fund for the Prevention, Control, and Elimination of Neglected and Other Infectious Diseases

**Pan American Health Organization/WHO
525 23rd Street, NW
Washington, DC
Room: B**

15–16 December 2008

Organizers

- Pan American Health Organization/World Health Organization (PAHO/WHO)
- Inter-American Development Bank (IDB)
- Global Network for Neglected Tropical Diseases, a major initiative of the Sabin Vaccine Institute

Objective

The objective of the consultation is to obtain feedback from national and international stakeholders on the design and implementation of a proposed Trust Fund for Neglected Tropical and Other Infectious Diseases in Latin America and the Caribbean. Discussions will also focus on how to mobilize resources and assure the political will needed to eliminate and control these poverty-related diseases.

Expected Outcomes/Products

- Present and receive feedback on the proposed NID Trust Fund from national and international stakeholders
- Share experiences of relevant programs and approaches
- Determine additional work required to complete the design phase and launch the initiative

DAY I — 15 December 2008

8:00 – 8:30	REGISTRATION
8:30 – 9:00 a.m.	WELCOME AND INTRODUCTION Opening Remarks of Mirta Roses, PAHO: Video Jarbas Barbosa, PAHO Kei Kawabata, IDB Peter Hotez, Sabin/Global Network
9:00 – 10:30 a.m.	ROUNDTABLE ON NEGLECTED INFECTIOUS DISEASES: SETTING, BURDEN AND OPPORTUNITIES Chair: Jarbas Barbosa WHO Global Plan to Combat Neglected Tropical Diseases 2008–2015 Dirk Engels, WHO Overview of Neglected Infectious Disease burden and mapping in LAC Ximena Aguilera, PAHO Opportunity and interventions to reduce prevalence or eliminate NTDs in the Americas Peter Hotez, Sabin/Global Network Discussion
10:30 – 10:45 a.m.	Break
10:45 – 12:30 a.m.	MINI-SESSIONS ON SCALE-UP FOR NEGLECTED INFECIOUS DISEASES ELIMINATION AND CONTROL IN LAC Chair: Kari Stoever, Sabin/Global Network
10:45 – 11:00 a.m.	What is proposed? First phase and second phase Amanda Glassman, IDB
11:00 – 11:30 a.m.	What is the financing gap for a first phase? Ricardo Bitran, Bitran & Asociados
11:30 a.m. – 12:30 p.m.	Local experience on lymphatic filariasis elimination. The case of the Municipality of Recife, Brazil – Denise Santos Correia de Oliveira National experience on onchocerciasis elimination – The case of Colombia – Santiago Nicholls Questions and Answers/Discussion
12:30 – 2:30 p.m.	Lunch with Guest Speaker Location: State Plaza Hotel 2117 E Street, N.W., Washington, D.C.

2:30 – 4:30 p.m.	PANEL SESSIONS ON PROPOSED TRUST FUND DESIGN AND FUNCTION
2:30 – 4:30 p.m.	<i>PANEL I: Trust Architecture and Operations</i> Chair: Kei Kawabata, IDB Principles, governance and eligibility criteria, executing arrangements, complementary investments Amanda Glassman, IDB Comments on the proposal from: James Fitzgerald, PAHO – PAHO’s Strategic Fund Paul Antony, Global Health Progress/PhRMA
4:00 – 4:15 p.m.	Break
4:15 – 4:30 p.m.	Discussion
4:30 – 5:00 p.m.	Wrap-Up and Closing Discussions, Day I Pat Lammie, US CDC
6:45 – 8:45 p.m.	Reception in Honor of Participants Sponsored by: IDB Location: IDB Headquarters – Terrace (7 th floor) 1350 New York Avenue, N.W. Washington, D.C.

DAY 2 — 16 December 2008

8:30 – 10:30 a.m.

PANEL II: Implementing Solutions via the Trust Fund

Chair: Peter Hotez, Sabin/Global Network

Setting goals and modeling elimination in LAC

Frank Richards, Carter Center

Mark Eberhard, US CDC

Baseline mapping: rapid assessment of NTDs

Dirk Engels, WHO

What an integrated program can look like in LAC

Steven Ault, PAHO

Operational research and systematic reviews

Zaida Yadon, PAHO

Monitoring and evaluation, surveillance

Patrick Lammie, US CDC

Discussion

10:30 – 10:45 a.m.

Break

10:45 a.m. – 12:30 p.m.

COUNTRY ROUND TABLE: PERTINENCE OF PROPOSED TRUST FUND

Chair: Maria Elena Bottazzi, GWU

Country case/reflections (15 min each)

Colombia – Santiago Nicholls

Brazil – Eduardo Hage

Guyana – Shamdeo Persaud

Guatemala – Zoraida Morales

Dominican Republic – Manuel González

Honduras – Concepción Zúniga

Discussion (15 min.)

12:30 – 2:30 p.m.

Lunch/Free Time

2:30 – 4:00 p.m.

Closing Discussions and Next Steps

Jarbas Barbosa and Kei Kawabata

6:30 – 9:00 p.m.

Reception and Dinner in Honor of Participants

Speaker: Hon. Tommy Thompson

Location: Mexican Cultural Institute

2829 16th Street, N.W.

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Annex III: Criteria for Considering a Disease as Present in a Country

Chagas Disease	Evidence of presence by any type of transmission in the last 10 years (1998–2007)
Schistosomiasis	Evidence of presence of the disease in the last 10 years (1998–2007)
Lymphatic Filariasis	Evidence of presence of the disease in the last 3 years (2005–2007)
Soil-Transmitted Helminths	Evidence of presence of the disease in the last 10 years (1998–2007)
Leprosy	Evidence of presence of the disease in the last 3 years (2005–2007)
Onchocerciasis	Evidence of presence of the disease in the last 3 years (2005–2007)
Human Rabies Transmitted by Dogs	Evidence of presence of the disease in the last 3 years (2005–2007)
Trachoma	Evidence of presence of the disease in the last 10 years (1998–2007)
Neonatal Tetanus	Evidence of presence of the disease in the last 3 years (2005–2007)
Congenital Syphilis	Evidence of presence of the disease in the last 3 years (2005–2007)