

Group Presentations

Chair: Dr. Humberto Montiel, Pan American Health Organization (PAHO)/World Health Organization (WHO), Costa Rica

Group 1: Fundraising

Facilitator: Dr. Eric Ottesen, Emory University

Rapporteur: Calum MacPherson

Participants: Eric Ottesen, Helen Freitas, Tereza Maciel Lyra, Mary Janet Diaz, Calum MacPherson, Margaret Fraser, Steven Ault

How much additional funding is needed?

Rough estimates were given on how much additional funding would be needed to fund the programs. For Brazil, specifically Pernambuco, costs were estimated at US\$2 million for 5 years. This includes funding for the mass drug administration (MDA) as well as basic morbidity control activities. Costs have not been estimated for other sites. For the Dominican Republic (DOR) Southwest focal point, costs were roughly estimated at US\$1.5 million for two years of MDA, plus morbidity. The Santo Domingo focal point would be an additional US\$600,000 for MDA alone for three years. The cost for other potential sites in the country has yet to be defined.

- Brazil
 - Pernambuco
 - US\$2 million for 5 years (mostly MDA plus some morbidity)
 - Other foci
 - Not yet estimated
- DOR
 - Southwest focal point
 - US\$1.5 million (2 years of MDA plus morbidity)
 - Santo Domingo focal point
 - US\$600,000? (MDA alone) for 3 years
 - Others? (not yet known)

Where can these funds be found?

To answer this question, program costs were broken down into different activities (disease control, morbidity, information, education, and communication (IEC) activities, entomological surveillance, health education, and environmental sanitation) and added to a basic Program to Eliminate Lymphatic Filariasis (PELF) team salary. The group agreed the ideal strategy would be to try to package lymphatic filariasis (LF) with other disease programs, where possible. For MDA, funding sources included the Inter-American Development Bank (IADB), and the World Bank. Brazil currently receives funding from federal sources for MDA, but additional funding sources need be identified.

- *Disease control.* Suggestions on funding sources for disease control included organizations willing to fund joint Hispaniola actions or obtaining financial support via integration with a control program (e.g., tuberculosis [TB]) through either the Ministry of Health (MoH) or World Vision.
- *Morbidity.* For morbidity, it was suggested that a joint LF-leprosy proposal advocating collaboration between different organizations be submitted to organizations working on leprosy or Hansen's disease (e.g., nongovernmental organizations [NGOs] working on Hansen's disease in Brazil, and the leprosy program-affiliated Dermatology Institute [*Instituto Dermatológico de Cirugía de la Piel*, IDCP] in the DOR). Other proposed

funding sources for morbidity in Brazil included Metsanfor. It was noted that morbidity treatment could be provided through the primary health care (PHC) system in Brazil and, possibly, by the DOR social security system (for affiliated patients), and that vector-control links could be forged with the Global Fund to Fight AIDS, TB, and Malaria (GFATM) (e.g., via the MoH in Brazil, and possibly the Japanese International Cooperation Agency [JICA] in the DOR).

- *IEC*. For the support of information, education, and communication materials (e.g., pamphlets, leaflets, and posters), as well as training and education sessions, private sector organizations such as Rotary International or the Lions Club and public organizations such as UNESCO (United Nations Educational, Scientific and Cultural Organization) were considered the best option.

- *Environmental management*. For environmental sanitation, funding suggestions included piggybacking program activities onto existing projects of the United Nations Children’s Fund (UNICEF) and other United Nations (UN) agencies, the IADB, and the World Bank (see Table 1). It was noted that in Brazil there are various federal sources dedicated to that function. In the DOR, it was suggested that the NGO Plan International (at the local level) be considered as a funding source, and that current team members be funded with Gates funds or as full-time government employees through government sources. The Central American Free Trade Organization (CAFTA) was also mentioned as a potential general funding source for the DOR.

Table 1. Funding suggestions: Piggybacking program activities

General	MDA	Morbidity	Vectors	IEC	Environmental sanitation	Team salary
Package with other diseases or programs	IADB World Bank	Hansen’s + LF	Global Fund (TB & Malaria)	UNESCO Private sector Rotary Int’l. Lions Club	UNICEF & other UN agencies IADB, WB → existing projects	
Brazil	Federal, other sources?	Hansen’s NGOs + LF, PHC	Secretariat for Health Surveillance (<i>Secretaria de Vigilância em Saúde; SVS</i>)/MoH		Federal	Federal, state, municipal

General	MDA	Morbidity	Vectors	IEC	Environmental sanitation	Team salary
DOR: CAFTA	Joint Hispaniola actions; integration with Vitamin A or TB programs	National Center for Tropical Disease Control (<i>Centro Nacional de Control de Enfermedades Tropicales</i> ; CENCET) & IDCP; Social Security	JICA?	Other NGOs	Plan International	Gov't

Who is going to do this fundraising?

- Program managers, together with
 - Global Alliance to Eliminate Lymphatic Filariasis (GAELF)– Executive Group (EG) members in DOR
- PAHO
- WHO
- GAELF
 - EG
 - Representative Contact Group (RCG)–Americas

How?

- Employ a fundraiser
- Learn advocacy skills
 - Emory University consultant
- Develop or adapt advocacy materials
- Assistance in fundraising
 - Marketing companies (*pro bono*)

The program managers made the point that although they were interested in getting the funds on board for their programs and having the overall responsibility for managing them, they should not be the actual fundraisers.

Therefore it was suggested that the program managers seek out and raise funds at the country level with the help of a marketing consultant. (It was noted that this has been successful in the DOR, where a marketing consultant hired specifically for that country is now being requested to go to other countries to teach advocacy skills.) It was also suggested that advocacy materials available from WHO and Global Program to Eliminate Lymphatic Filariasis (GPELF) be adapted specifically for the LF program or that new advocacy materials be developed. It was noted that fundraising could also be out-sourced from marketing companies who may be willing to provide some *pro bono* training and advice on how to do fundraising.

In terms of managing the process, it was suggested that in the DOR, for example, an action plan for the LF group could be developed as part of the EG meeting and that follow-up could be given to that plan. PAHO would be involved specifically for linking with international organizations, which would require the countries and PAHO to work together on their approach.

DISCUSSION

Comment. With respect to assistance in fundraising, PAHO would not be limited to working only with other UN agencies but would also be available to work with foundations and other possible resources of funding.

Group 2: Advancing Morbidity Control in the Americas

Facilitator: *Dr. Ana Maria Aguiar, Aggeu Magalhães Research Center (Centro de Pesquisas Aggeu Magalhães; CPqAM) / Oswaldo Cruz Foundation (Fundação Oswaldo Cruz; Fiocruz)*

Rapporteur: *Victor Pou, Dermatologist / Phlebologist, Dermatology Institute (Instituto Dermatológico de Cirurgia de la Piel; IDCP)*

Participants: *Herbert Charles S. Barros, Fermin Arguello, Reinaldo Braun, Celsa Sampson, and Victor Pou*

Conclusions

In general, Group 2 agreed that

- there should be mandatory registration of all lymphedema cases attended by the health system
 - registration data should be sent and digitized at a site selected for each country or municipality where clinical *fichas* are completed
 - there should be one uniform classification (as per system used by Dr. Gerusa Dreyer)
 - agreements should be established within local communities to ensure patients have access to some entity where they can be identified as a lymphatic filariasis (LF) morbidity case and referred to an appropriate treatment center (defined and selected by each country or municipality)
 - patients must have access to the basic prerequisites for self-care within their community (water, soap, medicine, etc.).
- all health professionals and morbidity specialists must be sensitized regarding LF morbidity.

Regarding hydrocele, the group agreed that

- the filarial etiology must be defined (in countries and municipalities with the proper capacity)
- the most appropriate technique for regular hydrocele be selected by each country but that the technique of Dr. Norões be used to treat severe cases
- standard surgical services decided on by each country should be provided to all cases
- the morbidity programs should be integrated with other programs (via a general account that could fund incentives / stipends to all personnel involved in the integration)
- resources should be identify to carry out all actions described above.

DISCUSSION

Question. Is it known how many LF patients there are in the Americas? Were the clinical cards (*fichas*) meant to cover all patients in the different countries?

Response 1. The issue of the number of patients with morbidity is a problem. A survey was conducted to determine the number of LF patients Maceió (Brazil). Out of the total population in the areas considered endemic (60,000), 0.3% cited complaints of morbidity. Out of those, 126 were clinically evaluated (0.8%). Out of that 0.8%, there were 42 cases of confirmed morbidity, including hydrocele and lymphedema. Most hydrocele cases were small hydrocele, and most needed surgery. In another, similar survey in Belém, where a survey was carried out with immunochromatographic testing (ICT) among male residents between 25 and 30 years from selected households. There were 13 complaints of morbidity, but only one or two cases of hydrocele (most were cases of erisipela, a condition that can be inferred based on the filarial etiology).

Response 2. In the Recife program, they are initiating the collection of information on morbidity right now.

Response 3. In Recife, there is a problem with some morbidity services that are provided, particularly for lymphedema, and it has been observed that the same patient could be seen in more than one basic (non-specialized) care program, so trying to centralize these data is difficult.

Response 5. The minimum steps needed to accomplish this begins with the centralization of the data, which is crucial. It is difficult to construct a program without this type of quantitative data. In Brazil, particularly Recife, in relation to hydrocele, the great majority of the patients have surgery, and the filarial etiology is evaluated when the patient is first examined at a specialized center. A great number of patients have the surgery, so people can infer the filarial etiology based on that surgery.

Question. There hasn't been much mention about treatment that can be done through home care, Hope Clubs, etc. What about the community and the family-based component?

Response. Through the community, the patients join the Hope Clubs, etc. So the community is important, and the patients can be referred from that level. But it's important to know the number of patients at some sites. It should be decided within each country exactly how to do that, since choosing the best format would depend on the local conditions.

Question. Did the group come to an understanding about the goal or the target of the morbidity component of the program? Is it to reach everybody with lymphedema and hydrocele, and put them under care? Or is it to provide everybody with access to that care? Because developing a registry to centralize all the information on morbidity within a country implies that the ultimate goal is to target everyone who has lymphedema or hydrocele (which would be a huge task).

Response. Because of the nature of the disease, it cannot be determined which patients have lymphedema from LF. So if the program is going to succeed, all patients must be treated. If that is not done, then there is discrimination among the patient population and the program is going to falter. It is a huge task. But those patients with lymphedema don't have any place to go. They move from one service to another and they are not being treated correctly. And the care gap keeps growing. So in the end, it is going to be more expensive to have to treat advanced cases of lymphedema than it would to try to treat them in the beginning stages. The program should try to direct them to resources in the community, and teach them how to practice self-care, but this should be done at the first sign of the disease. So, yes, all patients need to be evaluated and treated. If not, the program is not going to function.

Comment. The morbidity component could be even more aggressive. Morbidity care management and administration should take more responsibility at each level, in each city, and in the federal government, together with the Municipal Health Department, State Secretariat of Health, City Health Department, and Family Health Program to search for the best solution, assisted by the current guidelines.

Comment. Considering the resource constraints, it's critical to transfer responsibility for these patients from the LF program to the health system. As the prevalence of mf infection and antigenemia diminishes, the proportion of patients who will not have an obvious filarial etiology for the disease will increase. This could occur in many settings (e.g., in the United States there are thousands of patients with lymphedema, but in the last 10 years only one had an obvious filarial etiology). This could be an argument for a treatment program in the United States, but not with an LF label attached to it. There has to be a strategy to hand over the responsibility for LF treatment.

Group 3: Verification of Elimination of Lymphatic Filariasis in Individual Foci: Task for the RPRG, or Whom?

Facilitator: Dr. Patrick Lammie, Centers for Disease Control and Prevention (CDC)/Atlanta
Rapporteur: Gilberto Fontes

Participants: Gilberto Fontes, Manuel González, Luiz Valdés, Eliana Rocha, Zulma Medeiros, Luis Garcés, Abraham Rocha, João Batista Vieira, Patrick Lammie, Larry Mulligan-Gibbs

Overview

Group 3 agreed that because of regional differences the verification process should be done for individual focal points. The example of Guyana was given, as a small focal point, vs. Brazil, a country with many different, distant focal points with a variety of conditions (e.g., Belém, Recife, and Maceió). It was also agreed that the Regional Program Review Group (RPRG) should analyze the data individually for certification, that the guidelines should be revised accordingly in the preparation of the dossier, and that each country should help prepare the document. It was also decided that the verification document should eventually be directed to the Federal Government (the Ministry of Health [MoH]) but must originate with the persons actually working in the focal point.

What data should be included in the dossier?

According to the Technical Advisory Group (TAG) guidelines for preparation of the dossier submitted in a request for verification of elimination, focal point information should include

- general description
- historical data
- interventions (e.g., mass drug administration [MDA] and vector control)
- assessment of interventions
- surveillance
- bibliography.

Who should prepare the document?

It was noted that across different regions and within countries (e.g., Brazil) there are a variety of conditions and situations. Brazil's

focal points, for example, are municipal, within a state hierarchy. So documents are prepared by the proper municipalities, discussed, directed to the State Secretariats of Health, and forwarded to the Federal MoH. Therefore, in the case of Brazil, the dossier will be submitted to the RPRG by the MoH.

How should an individual focal point be defined?

The general feeling among the group was that focal point definition should be based on geographic, epidemiological, and ecological criteria, followed by administrative and political characteristics. In Brazil, for example, there is a focal point in the State of Pernambuco with four contiguous cities (Olinda, Paulista, Jaboatão, and Recife). In the State of Alagoas, next to Pernambuco, there is a focal point in Maceió. Focal points should be defined according to these geographic divisions so that different municipalities can be covered by just one focal point (as in the metropolitan region of Recife).

Which tools should be used to measure / quantify the surveillance?

- Entomology
- Thick blood smear
- Immunochromatographic test (ICT)
- Antibody

Entomological criteria, principally the use of the polymerase chain reaction (PCR) reaction, should be used to analyze most mosquitoes; analysis should be done via the thick blood smear test or ICT cards, depending on each country's resources and access to the use of antibodies.

How long should the surveillance be done?

(See The Story from Salvador.)

The Story from Salvador

Salvador, in the State of Bahia, was, in the past, a focal point of lymphatic filariasis (LF). In 2005, 20 years after selective treatment and surveillance was discontinued, three microfilaria (mf)-positive cases were found (natives of Salvador). Mosquitoes are now being collected in historically endemic areas and will eventually be sent to Maceió for PCR analysis. Because the endemic area of Salvador is an area of violence, the plan is

to conduct just one survey to evaluate the inhabitants, using ICT cards and antibody tests (although funding is not currently available). There is a need for more research, as well as validation tools, which need to be defined for the area.

Critical research needs

- Tools validation
 - PCR
 - Antibody
 - Mf
 - ICT

DISCUSSION

Comment. In the Salvador focal point, the survey is done among households in the neighborhood of the identified positive cases. Vector collection and any future surveys are determined based on a risk indicator (based, in turn, on environmental conditions). This indicator, or index, together with the epidemiological history of the traditional focal points, helps guide survey/data collection.

Comment. In the State of Bahia, there was a gap of 20 years between surveys (population studies using thick blood smears to determine if cases of morbidity existed). Along with the current survey, it would be interesting to construct an accompanying morbidity survey, and model. In meetings held in Salvador, persons working with health monitoring were selected to notify the health system of any lymphedema or hydrocele cases, so it would be a good time to research these cases.

Comment. To complement the information regarding case reference for filarial morbidity: There is already a project for Bahia—not just Salvador, but the entire state. The Aggeu Magalhães Research Center (*Centro de Pesquisas Aggeu Magalhães*, CPqAM) trained the person from Salvador, and the MoH financed the training for making the case survey. The next step involves case notification. It has been arranged for the person who was trained by the CPqAM to initiate the case survey based on the guidance received from CPqAM.

Comment. Salvador had mandatory notification.

Question. Congratulations to the State of Bahia, if it has mandatory notification. Is it for lymphedema cases? Or LF? Or both?

Response. For clinical LF, lymphedema, and hydrocele (but mostly lymphedema).

Comment. That would be very helpful in efforts to extend research there.

Comment. As mentioned above, now is the time to add a morbidity survey, while the case investigation is still in process. The Brazilian delegation has indicated this is already under way. It is important that this research be conducted together (the morbidity study and detection of active cases of mf).

Comment. Regarding case definition, there is a certain gap there that needs to be closed. Perhaps this meeting is an opportunity to do so. Case definition does exist, for notification of lymphedema and hydrocele. But this definition, and whether to notify the health system or not, depends on the general perspective of the doctor.

Question. This is a good opportunity to plan any additional training that may be needed (e.g., for physicians, urologists, hospital staff, hospital physicians) in order to refine staff knowledge of lymphedema and hydrocele cases. When was the last training? Was there any recent training in Salvador of physicians in the network? If not, this would be a good time to offer seminars or some sort of a bulletin to encourage physicians to report cases, and to help them identify them properly via some degree of differential diagnosis so the database doesn't get overloaded with lymphedema cases that may not have any obvious connection with LF.

Response 1. Regarding the follow-up of patients that remained in Salvador: All of the steps were planned to create services to provide proper patient care (e.g., training of urologists, lab technicians, and physicians who attend the patients) because there isn't any framework for this service. And CPqAM continues to train these people to ensure quality control, and to conduct antigenemia testing, etc. So all the proper steps were taken. Yet one person was found to be positive. So apparently the vectors must be analyzed in the follow-up as well.

Response 2. Regarding the question of monitoring (if and how it should be done, and for how much time), the conclusion was that by the time elimination has been certified, all activities have ceased. The question remains as to whether what happened in Salvador (and Maceió, Maranhão, and other areas) was due to the lack of this monitoring

Comment. There is no better time than now, considering what is happening in Salvador, to spend the resources to train and sensitize the local human resources to take advantage of the people who are there, and to train the local doctors directly rather than doing it through CPqAM, which is costly. If there is already a trained person at the local level, this should be taken advantage, allowing him/her to train others and thus allow the program some sustainability.

Comment. Regarding monitoring, another point that was cited was the morbidity component. As to defining the criteria, that needs to be discussed. Because the case confirmation is there, most of the time, but definition of the instrument is lacking.

Comment. The experience in Salvador has presented an opportunity to conduct a case study of a unique situation in which LF was thought to be eliminated when in fact it was not. It's important to keep in mind that there was some morbidity surveillance (the examination of the military conscripts). So it seems that morbidity is not a very sensitive surveillance tool. Salvador provides a perfect opportunity to conduct research on whether or not morbidity surveys that show higher prevalence can be more sensitive than ICT testing or surveys targeted by a risk indicator. For example, if an antibody test was conducted, which can be used for surveillance, is it necessary to do surveys at the community level? Or could surveys be done via the blood bank? Salvador provides the chance to ask these questions at an important focal point in Brazil, and this opportunity should not be lost. This

would create the need for additional resources (financing, re-agents, ICT cards, antigens for the antibody assays, etc.), however, and the source of these resources should be identified at this meeting. The results of such a case study would help inform programs in other countries.

Comment. Regarding verification at individual focal points, there is some question as to how to ensure the quality of future monitoring. In the case of Bahía, monitoring did detect the three cases of mf. And in some countries, the tools for mandatory notification do exist, to officially verify transmission of LF, and the regulations for notification are well defined (e.g., in the case of lymphedema for LF [what is conveyed to the doctor]). So morbidity monitoring could hold the process together. And periodic ICT surveys could also be done. Because right now there are many countries with active transmission, with cases that appear after receipt of the certification of verification. Intervention can be done immediately, when a case appears in a focal point, but the monitoring still should be maintained. In the guide being developed now, indicators should be added to measure the quality of the monitoring after certification of transmission.

Comment. One of the points presented about the surveillance was that there were a number of different techniques that could be used (i.e., whatever people could do or use was acceptable for surveillance). But morbidity is the least sensitive of these surveillance techniques. The new recombinant antigen test should be very sensitive in measuring either exposure to infection or a very early infection, but in a much simpler way than thick blood smears. Although all techniques should be considered, the goal is to quickly apply the different techniques to the situation in order to define what's the best, simplest, and cheapest technique. These studies will be informative and valuable to the Brazilian sites as well as the Costa Rica site. The assays that are difficult to carry out (e.g., the night blood smears) should be the last resort. Antigen is very expensive, but maybe an antibody test would work. By next year it should be possible to determine the best tool for surveillance. It won't clarify how to sample, or for how long, but it will identify the best tool.

Comment. Regarding the importance of identifying available resources to continue the research: There are about 500 ICT cards in the region, and it may be possible to release some to help with the research. Brazil has requested 3,000 for Salvador, which have been requested from World Health Organization (WHO). But is unclear whether they will be able to deliver them. The timing [for requesting funds] is good, due to the recent receipt of a small amount of additional resources for LF from WHO. So there are some funds to help cover whatever costs of the investigation cannot be covered by resources from Brazil. These resources from Geneva will expire by the end of December, so any funding needed for upcoming meetings or travel, etc. should be communicated to the Pan American Health Organization (PAHO)/WHO representative (any specific needs that cannot be covered with Brazilian resources).