



Lymphatic Filariasis Elimination in the Americas:

2nd Regional Program Managers' Meeting

(Georgetown, Guyana, 20-22 August 2001)



The Pan American Health Organization / World Health Organization wishes to acknowledge the generous support of GlaxoSmithKline as a co-sponsor of this event.

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2ND REGIONAL LYMPHATIC FILARIASIS PROGRAM MANAGERS MEETING

I. OPENING CEREMONY

Dr. Rudolph O. Cummings, Director

Dr. Cummings opened the meeting by welcoming participants and introducing the guest speakers: the Minister of Health, Hon. Dr. Leslie Ramsammy, Dr. Nevio Zagaria, Coordinator of WHO Program for the Elimination of Filaria and Dr. Bernadette Theodore-Gandi, PAHO, WHO Representative in Guyana.

Dr. Bernadette Theodore-Gandi, PAHO/WHO Representative

Dr. Gandi welcomed the group and expressed hope that the outcomes of the meeting would provide guidance in the regional efforts to eliminate LF. She acknowledged GlaxoSmith Kline's generous co-sponsorship of this event.

Dr. Nevio Zagaria, Coordinator of WHO Program for the Elimination of Filaria

Dr. Zagaria briefly spoke of WHO's commitment to the LF elimination program at the global level.

Dr. Leslie Ramsammy, Minister of Health

Dr. Ramsammy welcomed the group to this year's meeting in Guyana, expressing his commitment to WHO's program to eliminate LF by the year 2020 and to be one of the first countries to do so. LF and other public health programs are an important part of a recently adopted Poverty Reduction Program.

Dr. Ramsammy commended the work being done by Dr. Shamdeo Persaud and Indal Rambajan in guiding this program forward in Guyana and documenting the present status of LF in Guyana.

He stressed that efforts to introduce the DEC fortified salt as a main prong of attack is only a partial approach. The effectiveness of the use of multiple drugs in the fight against LF has been well documented. Guyana will continue to work to ensure that their approach is not limited to the use of DEC salts but includes other strategies including the use of

albendazole that simultaneously deal with other public health problems such as the helminths issue.

This approach, which can be applied through the existing health services, requires the involvement of almost all sectors of the health services and in the present Guyanese context, extends far beyond the confines of the traditional area of health. The focus therefore has shifted from the control of the vector to what we now describe as control at the source.

Regionally, several countries with low rates of transmission have moved closer to elimination. We all need to maintain a sense of the overall goal and guard against complacency, since this may once again lead to an upsurge of this disease.

He cautioned that the focus must be both on building in-country monitoring and response mechanisms and ensuring access to treatments. While recognizing that this program and the possibility of elimination are possible because of the generous efforts of drug companies to ensure affordable/free drugs to all affected countries, he mentioned that many countries have found that the process involved in accessing the free drugs is difficult and needs to be simplified.

He closed by expressing hope in the meeting's participants and subject in bringing about progress in public health in Guyana and other affected countries.

II. COUNTRY PRESENTATIONS

Representatives from each country were asked to deliver a presentation on their 2001 Plan of Action and progress made in the following areas: mapping activities, morbidity surveys, social communications, development of the morbidity component, training, treatment objectives and problems and obstacles. They also commented on minutes of their last technical meetings, 2002 Action Plans and budget and mobilization of resources. Following are highlights from these presentations.

Guyana

***Dr. Shamdeo Persaud and Dr. Tess
McPherson***

Dr. Persaud reviewed and commented on progress made in the 2001 Plan of Action for Guyana:

1. *Establishment of National Task Force and Programme Management Unit by the Ministry of Health.*

1. A project submitted to UNICEF for funding in the assessment of morbidity and salt fortification was approved in August 2001.
2. The following sub-committees were also established: Rapid Mapping and Assessment of Infection Distribution, Morbidity Assessment and Morbidity Program Development, Social Marketing and Social Communication, Salt Fortification, Regulation and Legislation, Programme Monitoring and Evaluation.

2. *Rapid Mapping of LF infection in all Regions of Guyana using the WHO approved ICT card method.*

- The use of the ICT provided the programme an excellent opportunity to test a relatively new method of microfilaria identification in Guyana. The target population were school age children 5 – 15 years old. Most health workers and community members were pleased that such a method does exist for monitoring the infection in their communities. Except for the program manager and one contracted personnel, the field-testing was done in collaboration with the primary health care staff in all of the regions. The Ministry of Education played a key role also in facilitating testing in the school population.
- Information obtained from this survey concurs with previous impressions that LF is distributed mainly among persons in the urban centers of Guyana and in adjoining rural areas.

3. *Assessment of the morbidity of LF nationwide.*

- There has been little analysis of the extent of morbidity resulting from Lymphatic Filariasis (LF) in Guyana. Anecdotal evidence suggested that there was considerable morbidity and some doctors felt that it was an increasing problem.
- In parallel with the mapping exercises a morbidity survey has been carried out to assess the current burden of LF on existing health services and current behavior of health professionals and patients.
 - Patient interviews suggest that impact from morbidity is high effecting ability to work and quality of life. Greater than 40% of them were describing acute attacks more often than once a year.
 - DEC has not been shown to be effective once lymphatic damage has occurred. Only penicillin

has been shown to be effective in preventing and treating acute attacks.

4. *Development of a morbidity management program in the most affected areas.*

The primary goal is to integrate new concepts of LF management into existing health care. The acute need is to educate both the population and the health professionals on current knowledge about LF and morbidity reduction measures. This should be done while demonstrating the need for a national programme to stop transmission and the potential benefits of DEC salt. To ensure that training is sustainable in the long term, it needs to fit into existing programmes. The new concepts of LF need to be integrated into current services. This will help to ensure that morbidity management messages stay part of health care provision after mass drug administration (e.g. Salt Implementation) has come to an end.

5. *Development of a strategy for the mass treatment of LF infection in Guyana.*

- Advantages and disadvantages pill distribution and salt fortification for the delivery of the needed DEC were discussed and a decision was that salt fortification was the preferred method.
- An assessment of the use, distribution and importation of salt in Guyana revealed that all the salt consumed by Guyanese population is imported mainly from two companies in Trinidad and Tobago and one in Jamaica. Both of these producers are currently working with PAHO/WHO and UNICEF on the regional salt iodization programme. This therefore, provides an excellent opportunity for the development of DEC salt intervention in Guyana.
- The importers do import and actively market iodized salt and with some systemic adjustment the importation and distribution system can be used for DEC salt.
- Given consumption rates of salt in Guyana and a rate of fortification of 0.25% weight for weight of DEC to salt, will provide a therapeutic dose of DEC necessary for micro-filarial elimination. This level of consumption will also provide only a total of 2.5 days of the previously 21 days treatment and thus a far less chance of overdose, drug toxicity of adverse effect of the salt.
- At present there are no existing legislation governing fortification of salt and as such some regulatory framework will need to be established.

6. Development of strategy for social communication and health education

The objectives of the strategy are to increase community awareness of the presence of LF, build alliances with other stakeholders e.g. City Council, Red Cross, sensitize health workers of the Ministry of Health's policy for the control and elimination of LF in Guyana, develop plan of action for the control and prevention of LF, especially among school age children and adults.

Constraint and Limitations

Dr. Persaud discussed the chief limitations as being:

- Transportation and access to all Regions
- Procurement of GPS/GIS Equipment
- Shortage of ICT kits
- Inadequate communication
- Accessing of Funds

Plan of Action 2002

The projected plan for 2002 includes the following:

1. Maintain National Task Force
2. Implement morbidity management plan
3. Establish Sentinel Site and laboratories
4. Social communication/Mobilization
5. Adaptation of materials
6. Initiate Salt fortification Programme
7. Monitoring & evaluation

Dr. McPherson commented on dermatological issues relating to the disease:

- Poor disease knowledge and understanding
- Over 40% of patients reported acute attacks more than once a year
- 60% had entry wounds and or inter-digital infection
- Poor skin care and little knowledge of hygiene importance
- Resignation to disease and associated

disability. She concluded saying that Inadequate knowledge of current morbidity control methods amongst both patients and health workers is resulting in inappropriate management and poor control of morbidity. **Discussion**

During discussion, Dr. Zagaria offered WHO's support and resources to increase availability of GIS equipment/software to complement surveying activities in the regions – they could also fund more comprehensive research which included mapping and charting survey info using GIS/GPS software. He also mentioned that WHO was developing a new version of the DEC salt that was currently in a testing phase but that may be of interest to the region

The remaining discussion focused on the issue of selecting sentinel spaces and standardization of methods in the Region.

Suriname

Dr. Lesley E. Resida, Director, Bureau of Public Health

Due to a power outage, Dr. Resida gave a quick summary of Suriname's situation, citing that the number of cases was low and that their goal was to eliminate LF completely in 5 years. At sampling sites around the country – so far in 8 out of 10 districts, have been identified with positive cases. To narrow this down, they had increased the sample size and put the focus on school age children. Treatment needs will be based on an upcoming mapping exercise. External funds have been difficult to procure but they had recently received a \$10,000 grant from PAHEF.

He summarized the 2001 Plan of Action:

- Retrospective morbidity assessment. This survey was done by retrieving information (demographic and clinical) from all old and recent records of patients treated for filariasis at the special facility of the Bureau of Public Health (BOG). These data will be computerized and plotted before November this year.
- Assessment on current LF morbidity in the capital city of Paramaribo and outskirts. Questions related to filariasis morbidity symptoms ("Big foot", hydrocele, chyluria) were attached to the questionnaire of an ongoing household survey on cardiovascular risk factors. About 1000 persons will have been interviewed by November 2001, after which the results will be analyzed. Unlike the first morbidity assessment, this survey will not provide confirmed cases of LF, but rather known cases of symptoms associated with impairment of the lymphatic system. Results of this survey will be useful in planning eventual follow-up activities.
- Once the ICT cards have arrived the survey will be started preferably before t October 2001.

- In the district Nickerie, which borders Guyana, also 750 pupils will be tested in the center, east and west part of Nickerie. In each of the other districts of the country (8) 250 pupils will be tested. Altogether 3000 children will be tested, before the end of this year.

He cited the main problems and obstacles being securing funds. Health sector reform has meant that health services are all hit by the decision of the government to lower the budget to bring the National budget in balance. Unofficial estimates mention between 30-35% decrease in funds for some health institutions.

The following are planned for 2001-2002:

- Purchase of GPS equipment and special training in mapping will be requested either locally or from abroad.
- The results of the antigenemia study will be automated using GIS software.
- The final report on the antigenemia and morbidity assessment will be produced in the first half of 2002.
- A small stock of medication (i.e. DEC and Albendazole) will be purchased before the survey has ended in case some positive cases are found. These will be treated with a single dose of DEC (6mg/kg), combined with 400 mg. Albendazole.
- The budget allotted by PAHO to Suriname is so far sufficient to cover the costs of the abovementioned activities. If however pockets of positive cases of antigenemia are discovered the costs of the activities associated with active case detection, treatment and surveillance have to be budgeted. However we cannot anticipate on this event as we cannot predict what the results will be of the antigenemia survey. But we expect the numbers to be zero or close to zero.

Discussion

Comments/discussions following the presentation revealed the following information and commentaries:

- Liverpool had put money toward mapping activities and there were problems with the ICT cards there and in other places (i.e. COR, Suriname, where there was a delay in receiving the cards);
- The speed of Suriname's study (3 months vs. 2 years in the DOR). It was suggested that the study in DOR was carried out in a different manner and at a much larger scale. This was

confirmed by the DOR – that study targeted every municipality with less 20,000 and carried out more comprehensive research trying to establish an incidence of <1% in those municipalities.

- Dr. Resida also mentioned that their study is helped along by the fact that there is a strong school health program and by the fact that it will be an intensive uninterrupted effort.
- School age is considered to be 6-12, 12-15 secondary school age (6-12 is target).
- The need to work on methods for low level incidence/transmission.
- Difficulty in gaining support from the Ministry of Health when there are no or very low number of cases.
- Verification of elimination vs. certification of elimination being worked toward in order to reduce the need for resource intensive studies that no cases exist.
- No standardized sampling technique. Positive municipalities are being identified based on different criteria but they sometime don't know the actual incidence.
- Need epidemiological studies to see how transmission is key in the spread of the disease.
- There exists a test of infection/verification but not elimination of transmission. There needs to be a more rigorous sampling regime – meetings like this are useful for that.
- Trying to prove positive versus negative incidence requires different surveying regimes/approaches – should follow both pathways in order to be able to prove elimination.
- 80% of population in Guyana lives on the coast and it's a small population - similar in COR and in Suriname – sampling needs to reflect that.

Dominican Republic

Dr. Francisco Paulino Mencía, Coordinator, LF Program (CENCET)

Dr. Paulino presented the results of a national survey of Filariasis in school-age children conducted between February 1999 - May 2001 as well as of a morbidity census.

Methodology of School Survey

Children at entry and basic level were targeted (5 to 15 years) in all public and private schools. 250 samples were taken per municipality (154 total). Lot

Quality Assurance Sampling (LQAS) was used using ICT cards.

Morbidity Census

Morbidity census was taken along with an assessment of the treatment of cases of lymphadema in the extremities and the treatment of genitourinary symptoms.

The objectives of the census were to ascertain in the region the type and frequency of lesions, prevalence by age and sex, magnitude of the problem and geographic distribution.

In addition, the study was an opportunity to promote the Filariasis Program in affected communities, form community teams for the anti-filariasis effort, improve community knowledge about the disease and inform the population about the possibilities of managing the disease.

The methods used were to identify community leaders, discuss problem with community organizations, propose community participation in the effort, train community leaders to use the census form, select group coordinators, rehearse census activities and finally conduct the census.

Dr. Paulino then discussed aspects of the morbidity management component of the program. He first noted that the demand for care for Lymphadaema resulted from the media, survey takers, academic investigators, physician referrals and the community.

Training and communication aspect of the program was to train 4 physicians, distribute videos and manuals to members of professional societies in certain specialties (dermatology, urology) and the AMD, show videos and present manuals to medical students, prepare and distribute flyers with basic information on the disease, meet with school principals in the municipalities, and collaborate in the adaptation of the Lymphadema Management Manual.

Table 1: Results of Treatment Survey

Characteristics	Location			Total
	Batey 2	Batey 5	Batey 9	
No. inhabitants	673	1491	411	2,575
No. families	168	384	122	674
Genitourinary pathology	13	38	2	53
Pathology in extremities	3	31	1	35

Table 2: Annual Treatment Objectives

Districts	Starting Date	Firm		Programmed		
	Month/Year	Year 1	Year 2	Year 3	Year 4	Year 5
A SW Focus	September 2001	1,000,000	1,550,000	1,550,000	1,550,000	1,550,000
B Urban Focus	September 2001		250,000	250,000	250,000	250,000
Country Total		1,000,000	1,800,000	1,800,000	1,800,000	1,800,000

Dr. Paulino addressed the issue that some of the current problems and obstacles facing the LF efforts in DOR were the population's lack of awareness about the problem, limited knowledge of health personnel, lack of resources (personal, vehicles, funds, equipment), diversity among the country's

regions and State reforms (including health), fragmentation of educational system, and poor management in public institutions.

He concluded with the Dominican Republic's plan of action for the coming year:

1. Continue National Survey

- Survey remaining municipalities.
- Develop strategy for urban areas.

2. Implement morbidity treatment component

- Train IDCP personnel.
- Develop a shared database.
- Establish Hope Clubs.
- Develop Referral System.
- Treatment unit at the Southwest Focus hospital.

3. Strengthen program's technical administration

- Establish Program Objectives.
- Identify Units.
- Describe Functions.
- Develop Administrative System.
- Formalize Inter-institutional Work Agreements (IDCP, UASD, others).

4. Activities to combat intestinal parasitosis:

- Coordinate deparasitation activities targeting schoolchildren in areas endemic for filaria.
- Provide training for laboratory personnel, including techniques for the diagnosis of filaria.

5. Mass treatment in endemic areas:

- Preparatory social study.
- Design and execution of communication strategy.
- Community participation.
- Evaluation of the drug therapy.

6. Develop epidemiological surveillance system:

- Participation of the health system's laboratory network.
- Role of private institutions: laboratories and medical centers.
- Local level (DPS).
- Shared network of databases: CENCET-IDCP-DPS.

7. Production/adaptation of instructional materials:

- Patient care.
- Community motivation.
- Continuing education for professionals: laboratory staff, clinicians, residents, undergraduate students.
- Communication strategy: Mass media.
- Production and reproduction of videos on surgical techniques.

8. Development of Diagnostic Unit

- Diagnostic quality control.

- Design of a training program for health system laboratories: SESPAS-IDSS-FFAA-NGOs-Private.

9. Research

- Evaluation of interventions.
- Entomology.
- Parasitology.
- Beliefs, attitudes, and practices.
- Social characteristics, migration.

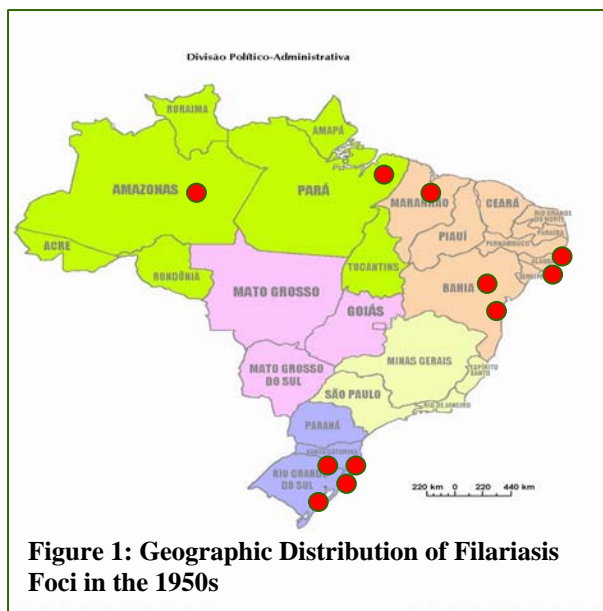
Brazil

Mario Castellani, Department of Pathology, Federal University of Alagoas, Maceió, Brazil

Dr. Castellani gave a review of the history of the disease in Brazil, followed by an overview of the current LF situation in Brazil, according to the most intense regions, with supporting graphics depicting target areas and prevalence rates. He followed up with conclusions, and projected areas for the coming years.

LF in Brazil: Past and Present

- First studied in Brazil in the 19th century.
- The first report on filariasis in Recife was produced in 1918-1919.
- In 1983, the SUCAM register showed a drop in the indexes for Recife from 6.9% in 1954 to 1.5%; and for Belém from 8.5% in 1957 to 0.2%.
- In 1985, the Ministry of Health considered Recife and Belém residual foci.
- In 1995, during the International Conference on Oncofilaria in Brazil, the guidelines for the Program for Elimination were presented.
- In 1996, in Brasília, the Program for Elimination was approved by the National Health Council through Resolution 190.
- In 2000, a National Program Evaluation Meeting was held in Recife
- Filariasis foci persist in the states of Alagoas, Pará, and Pernambuco.
- The most worrisome situation is in Recife and the cities of Jaboatão, Olinda, and Paulista, where the prevalence is high.
- In Pará, Belém, the last cases diagnosed were the 33 detected in 1998 during the epidemiological study with the ICT card.
- In Maceió, the capital of Alagoas, the number of cases rose from 21 in 1999 to 66 in 2000, demonstrating the intensification of the work carried out and the importance of the focus.



Projected Activities

I. Technical

A. Epidemiology and Information

- Create a working group to develop and set up an information system.
- Prepare a reporting form
- Promote epidemiological analysis of the hematoscopic studies to stratify risk areas
- Prepare a proposal for an information system compatible with SINAN.
- Produce information that will facilitate epidemiological and entomological evaluation of the disease.

B. Vector Control

- Survey, map, and characterize breeding sites.
- Form intersectoral commissions for proposing and implementing the necessary physical and biological interventions.
- Create a surveillance and monitoring system for vector control.

C. Diagnosis

- Identify the reference laboratory.
- Procure the necessary equipment for the reference laboratory.
- Reevaluate nearby areas utilizing immunological testing.

D. Treatment

- Identify priority areas for treatment activities.
- Stratify areas for selective and mass interventions.

- Utilize DEC as the drug of choice for pharmacological interventions.

E. Morbidity

- Conduct morbidity studies in historically endemic areas.
- Train human resources to assist in the studies.
- Acquire the necessary materials to attend cases.

II. Political and Administrative

- Create a National Committee to Support the National Program for the Elimination of Lymphatic Filariasis and name its members.
- Identify institutions and technical personnel to serve as support in the areas of epidemiology, information, vector control, diagnosis, treatment, and morbidity.
- Prepare a manual for the Program for the Elimination of Lymphatic Filariasis.
- Provide assistance to state and municipal programs for the elimination of lymphatic filariasis.
- Provide technical and financial assistance for strategic actions to support activities in the areas of:
 - epidemiological evaluation
 - training
 - prevalence, morbidity, and vector studies
 - creation and set-up of information systems
 - communication, education, and community participation
 - clean-up projects
 - research
- Adapt the National Program to international standards for the elimination of lymphatic filariasis
- Encourage international organizations such as PAHO/WHO to support the creation of a Committee for the Elimination of Lymphatic Filariasis in the Americas.

Projected activities in the next 12 months

- Create the "National Committee to Support the Program for the Elimination of Lymphatic Filariasis." Conduct the epidemiological study using the ICT card in Salvador and Castro Alves in Bahia, São José da Ponta Grossa in Santa Catarina, and Maceió in Alagoas, for a total of 8,000 immunodiagnostic tests.
- Assess epidemiological situation in Belém, Pará
- Begin mop-up activities in Recife
- Finish "Manual of Technical Standards for the Filariasis Program."

SECTIONS	POPULATION SCREENED	N.º POSITIVES
Guamá	4.787	04
Jurunas	1.693	01
Cremação	2.253	02
Terra Firme	844	0
Fátima	1.598	01
Pedreira	8.876	17
Telégrafo	2.349	03
Sacramenta	1.297	01
Bengui	463	0
Icoaraci	1.877	0
Mosqueiro	917	04
TOTAL	26.953	33

Table 3:

Number Of Individuals Screened And Positive for Filariasis in the City of Belém-Pará in 1998

CITIES	POPULATION	Nº INDIVIDUALS SCREENED	Nº POSITIVE CASES	POSITIVE %
JABOATÃO	567,717	29,834	313	1.05
OLINDA	368,666	16,946	449	2.65
PAULISTA	262,072	2,402	49	2.04
RECIFE	1,421,993	64,267	884	1.38
BELEM	1,279,861	132,888	0	0.00
MACEIÓ	796,842	12,179	66	0.54
TOTAL	4,697,151	258,516	1,761	0.68

Table 4:

Total Population in Area at Risk for Filariasis in Brazil in 2000

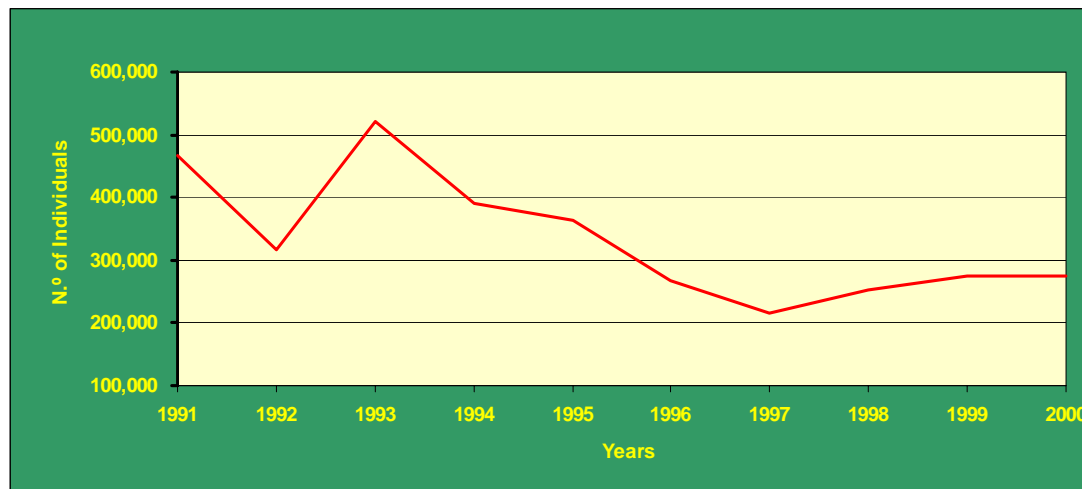


Figure 2:

Number of Individuals Screened for Lymphatic Filariasis in Brazil, 1991–2000

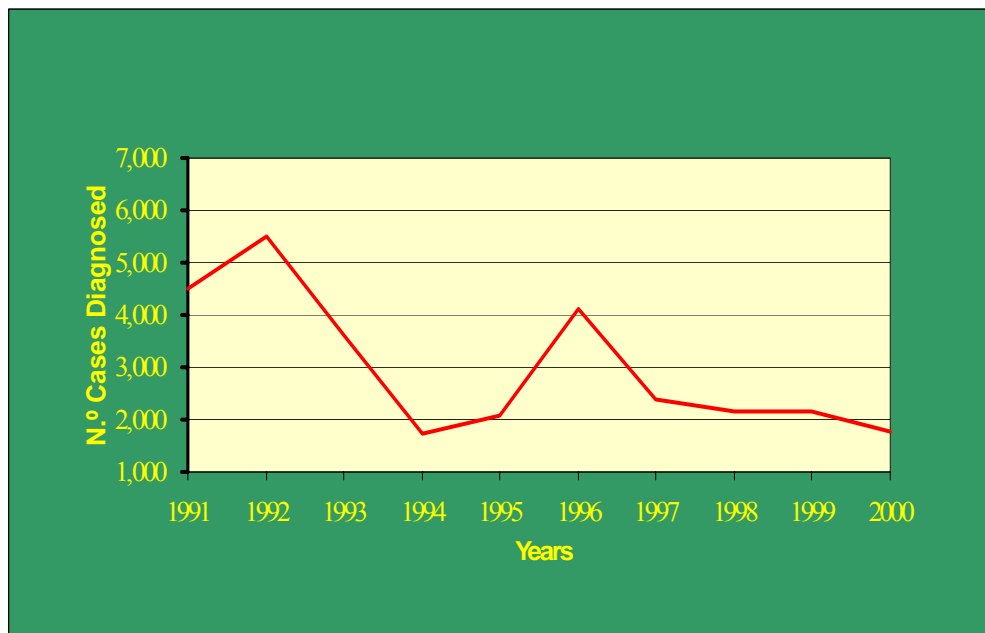


Figure 3:
Number of cases of Lymphatic Filariasis diagnosed in Brazil, 1991–2000

Haiti

Dr. Elda Nicholas, Chief of Vector Control, MSPP & Coordinator of the LFEP

Dr. Nicolas explained that LF is endemic in Haiti yet never been the focus of a national study, or even regarded as a health priority until recently. However, with recent advances in diagnostic methods and treatment of LF, the Ministry of Public Health and Population has elected to back the concept of the PELF. The objectives of the PELF in Haiti are:

1. Eliminate transmission. Prevent and alleviate suffering and disability.

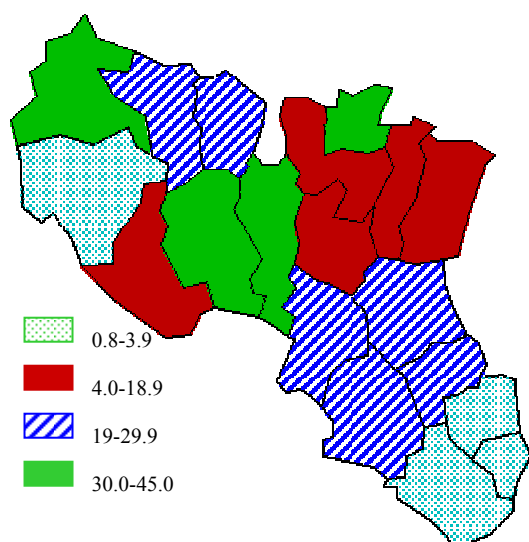


Figure 4: Percent of children treated in Northern Department

The first stage of the Plan of Action was the implementation of a national prevalence survey to map the various foci using ICT cards. The study took place between in three phases lasting from November 1999 to May 2001. The target population was school children aged 6-10 and sample sizes were 100-250 people per commune.

Dr. Nicolas discussed the results of this survey and presented the various maps and figures for the country by Department.

She commented on the treatment used: DEC 50mg tablets and the fact that no side effects had been verified.

Dr. Nicolas ended by presenting in progress and upcoming lines of action for the 2000-2005 time period:

1- Situational Diagnosis

- National prevalence study (completed). System for rapid evaluation of morbidity from LF as support.
- Sentinel sites in place for study of transmission dynamics and evaluation of elimination measures.
 - Active surveillance in communities with suspected cases.
- Expected results: Improvement of the epidemiological situation, availability of data on the modes of transmission and efficacy of elimination.

2. Reducing Morbidity

- Creation of at least three Project Hope centers to treat patients for a five-year period.
- Patient self-care.
- Drop-out rate of < 5 %.

3- Mass Treatment

- Start-up 12-18 months after mapping.
- Intensive education for community participation in the distribution and use of the drugs.
- Duration: 5 to 6 years.
- Drugs of choice: DEC + ABZ (Albendazole).
- DEC tablets: Contraindicated for infants under 2 years.
- Single annual dose: 6 mg/ kg taken twice, morning and evening.
- DEC-fortified salt: depending on the level of endemicity to be defined.
- ABZ tablets: contraindicated for women of childbearing age whose pregnancy is not evident.
- Single dose 400mg.
- Expected results: One case of filariasis per 1,000 inhabitants, 100% of exposed subjects treated in infested communes.

4- Selective Environmental Control

- Haiti is the only LDDC in the Americas. Factors favoring multiple proliferation of breeding sites are major constraints to program success.
- Need for small clean-up operations near communities to reduce vector density.
- Physical and/or biological treatment of breeding sites.
- Promotion of personal protection measures (netting impregnated with insecticide).
- Key role of education to encourage informed, active community participation.
- Indeterminate duration.

Discussion

Comments following Dr. Nicolas' presentation were on the issue of environmental data and survey methods.

The first question was on the matter of whether environmental data was collected along with the demographic data during the survey. Dr. Nicolas explained that there was environmental data collected and that this was done primarily by an entomologist on the survey team.

The second comment made was that mapping/surveying methods are diverging. This was noted for further discussion by the group.

Costa Rica:

Determining The Current Filariasis Bancrofti Situation in Puerto Limon, Costa Rica

Dr. Francisco Paniagua, Unidad de Vigilancia de Salud, Ministerio de Salud

Dr. Paniagua presented an overview of the situation in Puerto Limón, Costa Rica, a known endemic focus of *Wuchereria bancrofti*. His discussion was centered around the history, intervention strategy, achievements and goals of efforts in this region.

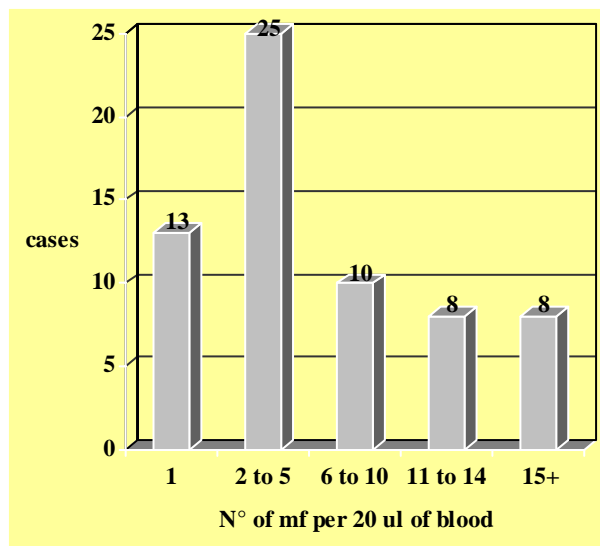
Background

- The first studies of *Bancroftian filariasis* in Costa Rica date back to 1946.
- In 1954 and 1962 studies were conducted in the Roosevelt area, yielding a positivity rate of 15.3% and 17.6%, respectively.
- Studies between 1976 and 1980 showed that the endemic focus of *bancroftian filariasis* in Puerto Limón is characterized by low prevalence and microfilaremia density, with a low index of infective forms.

Table 5: Distribution of Samples Positive for Microfilaria, by Location, Puerto Limón, Costa Rica, 1976–1980

DISTRICT	NUMBER OF SLIDES	POSITIVES	
		N°	%
Cristóbal colón	743	26	3.5
Roosevelt	406	14	3.4
Quartel	275	3	1.1
Cementerio	159	3	1.9
Pueblo Nuevo	302	5	1.7
Santa Eulvigés	533	12	2.2
Limón Centro	914	8	0.9
Barrio Quinto	689	7	1.0
Volunteers (Different neighborhoods)	938	16	1.7
Census of Positive Blocks	1196	39	3.2
TOTAL	6155	133	2.2

Figure 5: Distribution of Positive Cases by Microfilaræmia Density, Limón, Costa Rica, 1976–1980



Source: *Am.J.Trop. and Hyg* 32 (6): 1294-1297.

Intervention Strategy

Community Participation in Vector Control in the Cristóbal Colón District

- Preparation of a map and survey of mosquito breeding sites.
- Training courses for community residents on the disease and its vector.
- Development of a problem tree for the area.
- Involvement of different institutions in actions to improve the environment.

Achievements

- Streetpaving, construction of recreational areas for children.
- Start of property registration process.
- Filling in of swampy areas.
- Installation of lighting began, along with the construction of the boulevard along the beach.
- Improvements in: sewer system, availability of drinking water, repair of streets and sidewalks, clean-up and fumigation campaigns for dengue control.

Goals

- To determine whether transmission persists in the Roosevelt and Cieneguita districts.
- To determine whether morbidity persists in the city of Puerto Limón.

Methods

- *Determination of Antigenemia:* Procurement of 5,000 ICT cards, procurement of an external budget of \$10,000, training in the use of ICT cards.
- *Selection of Areas for Study:* Roosevelt and Cieneguita districts selected due to highest prevalence (> 3.5%).
- *Selection of the Random Sample:* Selection of 100% of students aged 10 to 19 in the Roosevelt and Cieneguita districts.
- *Updating of the Census:* For population figures, data will be obtained from the last census of the population.
- *Updating of the Map:* Updating of the map of the Cristóbal Colón and Roosevelt districts.
- *Morbidity Survey/Active case-finding:* Review of individuals with microfilaræmia recorded in the last survey in 1976.
- Review of records of patients with hydrocele, kaliuresis, and/or elephantiasis at hospitals, clinics, and other health centers in the central canton of Limón.
- Rapid survey of hydrocele, elephantiasis, and kaliuresis, based on door to door survey.

Expected Results

- Determination of antigenemia.
- Selection of areas for study.
- Updating of district census and map.
- Selection of a random sample.
- Information and promotion.

Table 6: Indicators of Program Achievements

ACTIVITY	Jun	JUL	A	S	O
Preparation of the evaluation	X				
Information (educational talks to raise awareness)	X				
Evaluation of antigenemia		X	X	X	X
Review of the registry of all individuals with a diagnosis of microfilaræmia	X	X			
Search for cases in patient records	X	X	X		
Rapid house-to-house survey	X	X			
Electronic databases	X	X	X	X	X
Preparation of the final report of the mapping exercise					X

Figure 6: Budget

ACTIVITY	EXTERNAL (US\$)	MIN. HEALTH (US\$)
Antigenemia, includes preparation of the activity and talks to raise awareness	9,820	31,250
Morbidity	300	19,050
TOTAL	10,120	50,300

Project Benefits

- Determine whether transmission persists or has been interrupted.

Discussion

The comments following this presentation focused on the importance of the environmental sanitation component to promote a multi-disease focus - to eliminate mosquitoes and limit dengue and culex at the same time as LF. There were also questions relating to other areas where cases had been reported.

Trinidad and Tobago

Dr. Karesh Sharma

Dr. Sharma began the Trinidad and Tobago (TT) report with a brief overview of the situation in the country:

- The government is committed to eliminating LF by 2020.
- Currently low prevalence with no reported cases in last twenty years.
- Epidemiological surveillance is non-existent and therefore true prevalence/infection rate is uncertain.

Dr. Sharma then gave a summary of the 2001 Action Plan and progress made in the program:

- Main objective was to determine if transmission had been interrupted and to assess the existence of morbidity.
- A national committee was established. Two meetings were held between 2000-2001 and the following issues highlighted:
 - The goal of PELF.

- The pre-requisite to certification of elimination by WHO.
- The short, medium and long-term objectives of PELF.
- Presentation of the 2000-2001 Action Plan.
- A morbidity assessment survey was completed as an important component of the assessment of the current status of LF – data being analyzed by CAREC.

He then highlighted upcoming activities for 2001-2002:

- Epidemiological reassessment of LF using the ICT card test (scheduled to begin Sept. 2001).
- Surveillance of clinical LF introduced into National Surveillance System in 2001-2002.
- Training needs identified and training conducted in 2001-2002 depending on the result of the epidemiological reassessment.
- Certification of LF elimination in TT will be requested depending on the epidemiological assessment.

Dr. Sharma then described a proposed National LF Antigen Survey that would take place between September-November 2001:

- Nine administrative districts will be surveyed.
- Sample size of approximately 3000, 8-12 year old school children.
- Conducted in collaboration with MOH, CAREC, PAHO, Ministry of Education.
- Re-visits will be made to any area where a positive case is detected for community follow-up.
- Data summarized and presented to National Task Force Committee in December 2001.

The combination of evidence from the morbidity survey, the antigen LF survey and ICT mapping will together provide comprehensive evidence of absence or presence of transmission of *W. bancrofti* in recent times.

The presentation was concluded with an overview of the budget for the proposed survey (~US\$15,000) and a timeline of all planned activities for the year beginning in September 2001.

III. THE TECHNICAL ADVISORY GROUP (TAG) AND THE REGIONAL PROGRAM REVIEW GROUP (RPRG)

*Dr. John P. Ehrenberg,
Regional Advisor in Communicable Diseases,
Pan American Health Organization*

*Dr. Nevio Zagaria, Coordinator, CPE/CEE
WHO, Geneva*

Dr. Ehrenberg and Dr. Zagaria gave a brief overview of two components of the global LF initiative.

The Technical Advisory Group (TAG)

- The TAG began in 2000, and presently has 13 members (6 experts in different fields, 5 programme managers representing WHO Regions).
- First meeting of the TAG was in May 2000 to discuss indicators for monitoring PELF, disability control and prevention strategies, LF as a childhood disease, ensuring supplies of quality DEC.
- Second meeting was February 2001 to discuss disability management and treatment – scaling up to provide impact at community level, verifying absence of infection, DEC dosage regimens, informational needs.
- The TAG's mandate is to advise WHO on all aspects of the elimination effort including research priorities.
- The TAG is linked to regional PRGs through the WHO focal points, who report on and bring up regional technical issues to the TAG.

Dr. Zagaria closed the discussion on the TAG with the following recommendations:

- Develop international LF training centers in each region.

- Test and refine programme managers' guidelines.
- Provide high priority to disability management and prevention.
- Endorsement of the draft guidelines on co-administration of DEC, albendazole, and ivermecton.
- Develop mechanism for analyzing the data collected during active monitoring of SAE's.
- Reporting by standardized formats.
- There is a need for a glossary of LF terms, definitions and acronyms to be validated and compiled by TAG.

Regional Program Review Group (RPRG)

- The RPRG is a technical group comprised of national and international experts in LF and other disciplines required to achieve the elimination goal.
- PAHO is the Secretariat of the group.
- Primary objectives: 1. Development of national plans. 2. Review national plans which include applications and re-applications of albendazole donation.
- Terms of Reference: Members of the RPRG are designated by WHO's Regional Directors, serve on a voluntary basis, WHO's Regional Focal Point acts as Secretary, RPRG Meetings will take place once a year, back to back with the Regional Program Managers' Meeting, Members remain for a period of 2 years, re-newable upon re-election, chairman acts for a period of one year renewable for a second year upon re-election
- *RPRG Members:* Dr. John P. Ehrenberg, PAHO, Dr. Nevio Zagaria, CPE/CEE-WHO, Dr. Patrick Lammie, CDC, Dr. Gerusa Dreyer, University of Pernambuco, Brazil, Dr. Joao Batista Furtado, Ministry of Health of Brazil, Dr. Marie Denise Milord, Hopital Ste. Croix, Haiti, Prof. Baltus Oostburg, University of Suriname, Dr. Barnett Cline, Tulane's School of Public Health and Tropical Medicine, Dr. Guillermo González, CENCET, Ministry of Health, Dominican Republic.

IV. REGIONAL FUNDING UPDATE, LOCAL FUND-RAISING EFFORTS & COUNTERPART SUPPORT

Dr. John P. Ehrenberg
Regional Advisor in Communicable Diseases
Pan American Health Organization

Dr. Ehrenberg updated the group on the financial status of the program, including current funding, proposals in process, and potential future funding options. He provided an overview on:

- A proposal submitted to the Bill and Melinda Gates Foundation on behalf of the global alliance;
- Continued corporate donations from GlaxoSmith Kline and Merck.
- PAHO's continued support of LF programs.

Dr. Ehrenberg indicated that eventually, the goal is to become self sufficient as a Region in fighting LF.

V. SOCIAL COMMUNICATION/COMMUNI TY MOBILIZATION: DOMINICAN REPUBLIC EXPERIENCE

Dr. Guillermo González
Director General
***National Center for Control of Tropical
Diseases (CENCET)***

Dr. González presented the experience of the Dominican Republic in social communication and mobilization, focusing on a behavioral change initiative associated with the control of Dengue.

Behavior change activities were adopted because of the urgent need to develop alternative, sustainable,

integrated approaches to *Aedes aegypti* control. This approach has so far helped:

- Reduce exposure to adult mosquitoes
- Reduce breeding
- Case management

Dengue in DOR

Background:

- More than 3,000 cases reported in 1998 (900 confirmed in lab)
- Reintroduction of Type III in 1998
- Water and sewage infrastructure severely damaged by passage of Hurricane Georges
- Indicators considered "severe"
- Breteau index: 82 positive containers per 100 houses
- House indices vary between 11% and 58%
National house index estimated at 46%.
- 55 gallon water storage tanks most prolific breeding site - cement reinforced tanks are best.
- Other breeding sites include bromeliad plants, houseplants, small containers.

A Call to Action

- Interagency group came together: SESPAS (MOH), PAHO/WHO, USAID, CDC, local NGOs.
- USAID's CHANGE Project invited to take the lead in developing behavior change strategy for dengue control.

Positive Findings

- Households expending a lot of effort/money to keep water clean—treating, cleaning and covering.
- Cleaning directed to leaves, dust, insects, waste, green algae growing on bottom, not mosquito eggs or larvae.
- Use of household bleach is ubiquitous, but in sub-optimal quantities for egg and larvae elimination.
- Little knowledge of where larva come from.
- Practices not very effective at reducing breeding.
- Do people treat drinking and cooking water better than other types?
- No observable relationship between the type of tank, type of water use, and care of tank.
- Tanks for drinking and cooking were both covered and uncovered.
- Plastic tanks were better covered, than metal tanks. Cement-lined tanks were often uncovered or inadequately covered.

- Community-generated solutions are tested in the lab
- Application of undiluted bleach rinse to sides and bottom of tank demonstrated to be HIGHLY effective as *Aedes* ovicide.
- Lime found as highly effective *Aedes aegypti* and *Culex quinquefasciatus* larvicide.
- Asking the community to try and improve recommended behaviors:
- Housewives encountered problems with the covers; many problems with design.
- Bleach treatment widely used with little modification.
- Housewives reported cleaning thoroughly and frequently.

The communications strategy revolved around the integration of messages into the community, such as in health centers and in the workplace. Very preliminary results suggest a 30% drop in infestation from the beginning of the initiative.

The following applicable lessons were extracted:

- There are no blueprints for changing behavior.
- Comprehensive approaches are essential.
- “Assets-centered approaches” are key.

Discussion

The first comment was that it was easier to mobilize for a behavior change campaign in the face of an epidemic as in a Dengue outbreak than preventively for LF. Dr. González responded that social communication and education increase awareness and sometimes that is the real problem and enough of an incentive for people to make a simple behavior change. Often it’s just that they don’t know there’s an easy solution and sometimes that’s the case even if their families have had the disease before.

Other comments were on vector covering water containers, the need for information on what the principal breeding sites are for *Culex* to decide what the best way for eliminating those pathways are (example of India and other countries may be helpful), publication on how vector control can help LF control was published.

Dr. González explained that mass treatment of culex is achieved not as a responsive measure but as an integrated effort to increase awareness and prevent future infection—together with treatment and sanitation measures it is effective.

VI. TREATMENT ACTIVITIES AND RELATED ISSUES SUCH AS SUSTAINABILITY, COVERAGE, DRUG-DISTRIBUTION MECHANISMS, HUMAN-RESOURCES NEEDS, POTENTIAL ROLE OF NGOS, TREATMENT-EXCLUSION CRITERIA AND MATHEMATICAL MODELING

*Dr. David Addis
Medical Epidemiologist
Division of Parasitic Diseases, CDC*

Dr. Addis gave a comprehensive presentation of various aspects of LF programs divided as: sustainability, coverage, drug distribution mechanisms, human resource needs, potential role of NGOs, treatment exclusion criteria and mathematical modeling.

Under sustainability, he mentioned the following:

- Overheard in the halls:
 - “We don’t need to worry about sustainability – this is a 5-year (if using tablets) or 1-year (if salt) program.”
- Assumptions:
 - Interventions will be as effective as expected.
 - Simultaneous program implementation.
 - Adequate (almost universal) drug coverage.
 - Adverse reactions well tolerated and accepted.
 - No reintroduction of transmission.
- “Short-term sustainability” (5 to 10 years or more) for intervention itself.
- Longer for post-intervention surveillance and certification.
- *Life-long* for lymphedema management.
- Experience of other elimination programs (e.g., Guinea worm): *more* difficult to sustain (interest, motivation, funding) as approach goal.

On the issue of drug coverage, Dr. Addis commented that this was one of the most important indicators of success, defined by:

- A ‘numerator’ defined as one of: number of pills distributed, number of pills delivered to the household, number of pills actually swallowed, number of people who say they took the pills.
- A ‘denominator’ defined by one of: total population (census), “Eligible population” – excludes pregnant women, young children, number of people surveyed.

To assess drug coverage operationally he used the following definition: Number of pills distributed per total population (from census). The advantages of this method is that it is inexpensive but it assumes that all pills are accounted for and the census is accurate.

The advantages of Surveys for Assessing Drug Coverage are that they are considered more accurate, census data is not necessary and they can assess community mobilization efforts and identify risk factors for non-coverage at the same time. They assume truthful responses. He mentioned options for surveys including:

- “30-cluster” survey used to assess vaccine coverage.
- Rapid assessment (school survey).
- Lot quality assurance techniques.

He mentioned the main drug distribution mechanisms as being house to house, distribution posts and via commercial products (DEC salt).

Necessary human resource needs would be vast including technical, managerial, and financial.

He referred to NGOs as a “vast untapped resource” at the local, national, international level in morbidity control / disability prevention. Current members of the Global Alliance are:

NGO Amaury Coutinho, Brazil.

- Health and Development International (HDI).
- Interchurch Medical Assistance (IMA).
- International Volunteers in Urology (IVU).

He also discussed exclusion criteria for DEC and albendazole tablets (Children less than 2 years old, Pregnant women, and acutely ill).

Dr. Addis discussed a simulation model being developed at Erasmus University, Rotterdam,

Netherlands, based on an epidemiological situation in Pondicherry, India (*Culex*). The program will be useful for modeling transmission and program dynamics. A user-friendly *Windows* version is being developed.

Discussion

During discussion, Dr. Addis added that more work needed to be done on simulation model to take into account side effects in calculations of sustainability.

VII. HEALTH EDUCATION AND LF TRAINING MATERIALS, VALIDATION, ADAPTATION AND OTHER NEEDS

*Dr. Nevio Zagaria
WHO Coordinator, CPE/CEE*

Dr. Zagaria commented on training as a way to improve performance, to improve the gap between desired and actual performance. He described the target group should be programme managers and DMOs, drug distributors, media officers, doctors and nurses, community health workers and teachers. He listed the key elements of a training strategy as: Needs assessment.

- Resource identification.
- Development of strategy.
- Adaptation of curricula.
- Course implementation.
- Assessment and evaluation.
- Follow-up.

He also went on to describe different possible training activities such as workshops, school activities and training centers and ways to assess what the training needs were.

Dr. Zagaria pointed out that the main elements to consider in designing a training program are: context, inputs (resources, content), educational process and output (evaluation of the learners). The sequence of training activities should be course preparation, core course, follow-up visits, after training monitoring and refresher courses. He gave details of training for drug distributors and for program managers and mentioned countries where past workshops have been implemented.

He went over further details to ensure quality training and evaluation of the program. He concluded in saying that training is key to improve the performance of health personnel, resources for training need to be identified early in the planning process and that evaluation is an ongoing task and that focus should be on measurable indicators to obtain early feedback on the results of the program.

Discussion

It was pointed out that training manuals are available online at www.filaria.org. One participant voiced that the problem was that very little is mentioned on vector control and environmental sanitation at the municipal level in the program managers' manual - it is more focused on mass treatment. If WHO has other materials on this subject, they should also be posted online.

VIII. PROGRAM “CHALLENGES AND NEEDS” EMERGING FROM THE RESULTS OF THE MAPPING EXPERIENCES IN MACEIÓ AND BELÉM, BRAZIL

*Dr. Gilberto Fontes
Professor Adjunto
Universidade Federale de Alagoas*

Dr. Fontes used a combination of slides and reports to present the current situation and outlook for the elimination of LF in Maceió/Alagoas, Northeastern Brazil.

According to the Ministry of Health, at the present time the only active foci of lymphatic filariasis in Brazil are, in ascending order of importance, the cities of Recife (PE) and its metropolitan region and Maceió (AL), both in the country's northeast, and Belém (PA) in the north. In Maceió, the distribution of this parasitic disease is clearly focal, with microfilaremic individuals found mainly along a canal (Reginaldo) that runs through three central, contiguous neighborhoods (Feitosa, Jacintinho, and

Pitanguinha). A survey conducted in 1995 found a prevalence of 5.8% in this area; at that time, all persons determined to be infected with the parasite were treated.

Dr. Fontes explained that the bancroftian filariasis situation in Maceió (AL) is currently being reevaluated. To do so, a team was formed, consisting of university professors and students as well as technical staff from the Municipal Health Secretariat, responsible for disseminating information, raising awareness, and conducting a census of the population, in addition to working in the field (hemoscopic examination, mosquito capture) and performing the laboratory tests. Students have participated as part of a parasitology research and extension program of the Federal University of Alagoas.

He explained that the study population is all residents of the area in question and involves a census of residents by block and housing unit.

The diagnostic technique employed is the thick smear blood sample, with a blood volume of 60 to 100 μ l, obtained by finger stick after 22:00 h, due to the nocturnal periodicity of microfilariae in the peripheral blood of hosts in the region.

He presented the preliminary results as follows:

- Out of the total population in the study area (approximately 40,000 residents), 25,082 individuals had already been registered by the census between January 2000 and July 2001 and 22,173 examined, or 88.4%. Of the people examined, 132 microfilaremic individuals (0.6%) were detected. Of these, 94 (71%) were male and 38 (29%) female, with the odds of males versus females being parasitized equal to 2.9 (CI of 95%: 2.1-4.1).
- The individuals examined ranged from 2 to 86 years of age, and among microfilaremic individuals, 6 to 80, with no differences observed between the mean age of microfilaremic and amicrofilaremic individuals ($p > 0.05$).
- Among those infected, the mean age was 28.4 ± 13.5 years among males and 22.9 ± 15.1 years among females ($p < 0.05$).

- The prevalence of individuals with microfilaremia is higher in the young population of both sexes, increasing with age and plateauing at age 21 to 25 in men and 16 to 20 in women.
- Of the 132 microfilaremic individuals detected, 119 were born and raised in Maceió;
- In addition to a sharp drop in the prevalence of parasitized individuals in the area over the past six years (5.8% in 1995 versus 0.6% in 2001), reductions in mean microfilaremia levels to nearly one-sixth have been observed, determined by the polycarbonate membrane filtration method.
- As to the insect vectors, studies in 1995 showed that in the homes of parasitized individuals and their neighbors, the index of natural infection among *Culex quinquefasciatus* mosquitoes was 0.074 and 0.03, respectively. These indexes have fallen to 0.03 in the homes of parasitized individuals and to 0.0047 in neighboring residences ($p < 0.01$).
- It is believed that the decrease in the prevalence, parasite load, and indexes of natural vector infection in the area is due to the active case-finding and treatment of parasitized individuals over the past 10 years.

Control measures to eliminate bancroftian filariasis in Brazil are being implemented through joint action among the Municipal Health Secretariat of Maceió, the National Health Foundation, and the Federal University of Alagoas.

The Federal University of Alagoas (UFAL) launched a wide-ranging research project with the active participation of students in health programs, creating a body of literature and research on filariasis. Several activities are under way, and students can work in a variety of areas: epidemiology, entomology, diagnosis, clinic, and treatment.

Dr. Fontes explained that the students' current work in areas endemic for filariasis has yielded significant results. In addition to the sharp drop in the prevalence of parasitized individuals in the area over the past six years (5.8% in 1995 versus 0.6% in 2001), reductions in mean microfilaremia levels to nearly one-sixth have been observed.

IX. SETTING UP THE MORBIDITY COMPONENT: LESSONS AND PRACTICAL ASPECTS BASED ON THE EXPERIENCES OF BRAZIL, HAITI AND THE DOMINICAN REPUBLIC

Dr. Gerusa Dreyer
Federal University of Pernambuco, Brazil

Dr. Gerusa Dreyer of Brazil discussed key issues related to disability prevention and rehabilitation programs in filariasis endemic areas. She emphasized the importance and responsibility of health professionals to use the available tools and knowledge to limit the suffering associated with this disease.

She presented basic information/graphics of the disease and then listed definitions of terms from the International Classification of impairments, disabilities and handicaps (WHO, 1980):

1. *Impairment* is an abnormality of a psychological, physiological or anatomical structure or function. Impairment refers to organs. Example: paralyzed muscles of the legs.
2. *Disability* is the restricted ability to perform an activity. *Disabled* refer to persons. Example: a disabled person cannot walk.
3. *Handicap* is the restriction faced by a person with disability in fulfilling normal roles due to social barriers. Handicaps refer to interactions between people and their societies. Example: a handicapped person cannot get a job because employers do not want employees who cannot walk.

She then commented on the need for a comprehensive implementation strategy for disability prevention and rehabilitation programs in filariasis endemic areas. The current situation in terms of knowledge and training is as follows:

- Availability of knowledge: scientific literature and international training centers.
- Tools available: already packaged in trials editions of videos, manuals and booklets.
- Complicating factors: Medical issues (diffuse and complex aspects of the disease, lymphatic damage is not an isolated phenomenon, prejudice from professionals).
- Other issues: Increasing disabled population (due to lack of clean water).

Dr. Dreyer described the necessary actions as:

- Changes in the health care delivery system.
- Monitoring.
- Financing and sustainability/ support for communities and families.

The critical barriers in these efforts are

- Current: LF often falls behind other priorities in the great majority of filariasis-endemic countries.
- Affected people take little or no part in community productivity (competition for job opportunities between employees with and without filariasis) and consumption (they are poor and are often hidden at home).
- Future issues: rehabilitated citizens: solution or additional problem? Transmission not interrupted in the time frame expected.

Dr. Dreyer concluded suggesting that leadership, coalition building (society) and continued communication and exchange of experience will be the critical success factors for disability prevention and rehabilitation programs.

X. GROUP DISCUSSION I:

NATIONAL PLANS KEY ISSUES

The first set of group discussions was focused around identifying national priorities and establishing national plans. Participants were divided into two groups and asked to comment on the following aspects of their national strategies: reducing transmission/verification of elimination, country commitment, mapping, strategy for treatment, preventing disability, resource needs, most important barrier to implementation and 2001-2002 (12 month) objectives.

The first group, comprised of representatives from high prevalence countries: DOR, Brazil, Haiti and Guyana. They presented the following results:

GUYANA

Reducing Transmission

- Country commitment: Yes.
- Mapping strategy: 63 areas, 28 schools, 207 positive cases, 9.33% positive, 5-15 years tested.
- Strategy for treatment: DEC-salt.
- Existing treatment programs: leprosy skin disease team, include heavy community involvement, multi-disease treatment, training of health personnel and people at community level.
- Resource needs: Resources to maintain 2 sentinel sites, technical staff needed for sentinel sites and a coordinator to be able to supervise sites, (sites will be located in New Amsterdam and Georgetown), need coordinator for social mobilization (training component), need facility within FDA for DEC salt analysis, training in health communications, infrastructure.
- 2002 Objectives: select sentinel sites and collect baseline data, training for health workers in disability prevention/disease management, finish salt analysis/legislation (FDA), start public mobilization, start DEC-salt production.

DOMINICAN REPUBLIC

Reducing Transmission

- Country commitment: High.
- Mapping strategy: Mapping by municipalities, lot quality assurance. Modify to make faster and cheaper without reducing quality of data, 84/154 municipalities. Of 84 tested 14 are positive.
- Strategy for treatment: mass drug distribution (DEC/albendazole) in positive areas once a year, home by home. This has been tested in one community, got 79.5% coverage of total population, WHO exclusion criteria, 14 areas to start. EPI evaluation before mass treatment continued in 2 municipalities where a positive child may have moved from another area. Start mass treatment before end of 2001 in 14 endemic areas. Monitor closely all activities.

Preventing disability

- Country commitment: High.
- Mapping strategy: based on population feedback it is clear that MDs also want to know what to do. Need clinician training. Lymphedemalocal community with strong link to dermatological and leprosy institutions. Link with National Dermatology Institute formalized for them to serve as a reference center for country. Urogenital: 19 surgeons and urologists trained in DR workshop by group from Brazil. One urologist to receive further training in Brazil in next 1-2 months. Establish center in middle of focus, unit at local hospital.

Resource needs

- Personnel: reorganize program with central filariasis-dedicated personnel (have been using malaria program staff). Next budget will ask for dedicated personnel. They will train and distribute information to MDs, nurses, and NGOs.

First steps

- Plans in place: Finalize agreement with National Institute of Dermatology (semi-private organization), formation of national committee, training of surgeons in south of country, creation of treatment unit, complete mapping, evaluation of 2 municipalities to reconsider whether they should be treated, development of communication materials, curriculum and activities, training of staff for mass distribution and morbidity management, mass treatment in endemic areas (all 14).

BRAZIL

Reducing Transmission

- Country commitment: Yes. Passed Resolution 190 by the national health council committing the country to both reducing transmission and preventing disability.
- Mapping strategy: Maceió: Survey done, stratification and ID of true focus area Belém: cases have not been registered in the last 2 years by thick smear; reevaluated with ICT cards (less than 0.1%). Recife has completed mapping.
- Strategy for treatment: DEC (alone so far); selective treatment (12 days treatment)). In

foci with more than 10% MF prevalence (by thick smear) there may be a possibility for mass treatment strategy for treatment (e.g. mass drug distribution (one drug, combination), salt, targeted, mixed strategy). Maceió: targeted DEC alone for infected persons (12 days) identified in mass survey. Belém: Reevaluate. Greater Recife: Discuss albendazole DEC combination.

- Existing treatment programs: yes (selective of positive cases with 12 days treatment with DEC). Recife has proposed sanitation and vector control projects.

Preventing disability

- Country commitment: Yes
- Strategy: Maceió: will start the program implementation. Recife has 50 technicians already trained, will be integrated into basic health services through family health program.
- Existing program(s): tertiary assistance integration with other efforts (e.g., leprosy): not yet.

Resource needs

- Personnel: Candidate for consultants with use of external funds, have own budget for: training, health communication, infrastructure.
- Most important barrier to implementation: political; institutional necessity of funds for water sanitation, very important to improve communication between municipalities, state and health secretariats (elections next year may complicate the process).

Objectives

- Hold 2 training courses on morbidity management (Maceió and Belém).
- Conclude mapping in Greater Recife.
- Support Recife plan for integrated efforts which includes communication, education and social mobilization.
- Maceió and Belém: Implement and evaluate transmission by vector using PCR
 - Form national committee.
 - Finish programmatic manual.
 - Initiate integrated control program in Recife.
 - Maintain the current filariasis activities.
 - Considering implementation of mass treatment in some areas.
 - March 2002 national meeting to evaluate national program.

HAITI

Reducing Transmission

- Country commitment: Yes. Have a national committee and waiting for official decision to start with specific activities like revision of the national plan of action.
- Mapping strategy: Completed
- Strategy for treatment: mass treatment accepted (alb/DEC combination with exclusion criteria), DEC-salt will be used in certain areas. Salt: quality control lab in country existing treatment programs in Leogane pilot program 110,000 treated in 2000.

Preventing Disability

- Country commitment: Yes. In process of designing morbidity control strategy and establishing standards of care. Integrate these standards into proposed national plan. Country committed to train. Attended a “train-the-trainers” course in Brazil and Haiti.
- Strategy: Starting morbidity management.
- Existing program(s): HOPE programs in Leogane and Milot (2 largest foci of infection), ongoing Cardinal Leger Foundation for integration with leprosy care in Leogane and for MCH activities in 4 health centers in Milot.

Resource needs

- Personnel: large need for technical, clinical and managerial personnel.
- Training, training plan and materials for morbidity control being developed, medical record sheet already available; needs training facilities for morbidity education programs (should include hygiene facilities with running water), specific interventions in health communication and infrastructure are needed.
- Most important barrier to implementation: lack of human, financial, and material resources in areas other than Leogane and Milot.

First steps

- Plans in place: Reference plans and framework available and they will be reviewed by the national committee resources committed. Multiple partners involved: MOH, HSC, Milot/CRUDEM, MCC, IMA, CDC, PAHO/OMS, Cardinal Leger Foundation, University of Notre Dame, Indiana.

Assessment

2002 Objectives:

1. Preliminary stages of assessment of geography, organization of community, health communication, community mobilization (unit of action = village), plan continuously updated based on community findings, distribution training necessary for mass treatment.
2. Select 6 sentinel sites, 4 in high-prevalence areas (> 10% antigenemia), 2 (1 in 5-9%, 1 in < 5%) in low-prevalence sites.
3. Strengthen epidemiological surveillance in 16 negative municipalities.
4. Proceed with obtaining legislative approval and other aspects of process necessary for production of DEC-salt.
5. Continue with LF morbidity assessment in all 10 sanitary departments.
6. Specific training program for drug treatment, epidemiological surveillance, and morbidity management.
7. Use of drug combination and DEC-salt discussed with national committee.
8. Evaluation of preparation, mass treatment and morbidity program.

The second group, represented Costa Rica, Trinidad and Tobago and Suriname, three countries with low prevalence rates and similar circumstances. They focused on verifying the absence of infection, preventing disability and resource needs, with the following results.

COSTA RICA

Verifying the absence of infection

- Antigen surveys of 4500 school children in 8 neighborhoods of Puerto Limon (historical focus primarily in 2 neighborhoods).
- Additional research studies to assess transmission and certification issues
- PCR studies of entomologic indices Serologic to assess exposure.

Preventing Disability

- Conduct assessment of lymphedema and hydrocoele.
- Provide training to clinical reference center at Social Security Hospital.

Resource Needs

- To be determined based upon survey results.

TRINIDAD AND TOBAGO

Verifying the Absence of Infection

- Execute the antigenaemia survey (ICT card) nationally.
- Investigate any community or individual found positive for LF or symptoms.
- Develop a surveillance capacity into a multi-disease epidemiological system.
- Strategy for monitoring persons from endemic countries.
- Certification of LF elimination: mounting evidence for application from WHO.

Preventing Disability

- Assess morbidity and set up a treatment programme.

Resource Needs

- Multi-agency/multi-sector support for the multi-disease approach.
- Funds for support of the above projects.

SURINAME

Verifying the Absence of Infection

- Import and use ICT test for 3500 persons.
- Finalize the mapping process.
- Establish surveillance system with neighboring countries.
- Re-establish regular border meetings.

Preventing Disability

- Finalize the analysis of the prospective study on morbidity assessment.
- Purchase training material on disability management for LF.
- Introduce standardized education programme to Bureau of Public Health clinic.

Resource Needs

- To be determined upon survey results.
- To purchase small stock of DEC tablets.

OVER ARCHING ISSUES

Trinidad and Tobago, Costa Rica and Suriname

Assessment of Disability

- Training and service provision through an existing central referral center
- Long term plans should include skin care programs in pre-service training

Verification of Absence of Infection

- Standard protocol for the follow up of ICT positive cases
 - Use opportunities to evaluate approaches to certification

XI. ALBENDAZOLE DONATION UPDATE BY REGION

*Dr. Brian Bagnall
LF Program, GlaxoSmithKline*

Dr. Bagnall expressed GSK's commitment to the Americas Region of the Global Programme to Eliminate Lymphatic Filariasis with the donation of albendazole to all countries that need it. Realizing that supplies of drugs alone are not enough to ensure progress, they have also been able to give a number of significant funding grants to partner organizations. Since 1998 GSK has provided ~ \$4 million to WHO, PAHO, NGOs and the academic LF Support Centers. They also provide significant GSK staff support from their team of planning, financial, logistics and communication experts. They have, in addition, sponsored a wide variety of meetings, workshops and publications, including half the costs of the present meeting.

He commented on the LF initiative evolving into a Global Alliance with about 35 member organizations. Last year 34 million treatments of albendazole were shipped and as countries begin mass treatments, that number will be about 55 million. They anticipate that by 2010 almost 600-700 million treatments will be needed. The Americas region represents a very small fraction of the global demand for albendazole. Not only are at-risk populations smaller in this part of the world than many other LF regions but also there is pilot use of the DEC-fortified salt.

He noted GSK's support of the regionalization of the LF programme and the establishment of Regional PRGs as progress in bringing decision-making closer to the places where treatments are needed. He mentioned the importance and role that PRGs play in planning for tablet supply each month. He commented on the challenges ahead in treating the world's major LF-endemic countries and the need for more harmonized approaches. One example is a harmonized collaborative process established with Merck & Co. Inc. and the Mectizan Donation

Program (MDP) to include donation of Mectizan (Ivermectin) for LF control in the countries of sub-Saharan Africa where lymphatic filariasis and onchocerciasis co-exist. African countries requesting both Mectizan and albendazole need only submit one application to the MDP in Atlanta.

XII. THE ONCHOCERCIASIS ELIMINATION PROGRAM IN THE AMERICAS

*Dr. Frank Richards
Technical Director
Global 2000 River Blindness Program
The Carter Center*

Dr. Richards presented an overview of the Onchocerciasis Elimination Program for the Americas (OEPA), a program which has had great success in reducing the disease and could serve as a model for the LF initiative.

The filarid parasite *Onchocerca volvulus* causes human onchocerciasis ('river blindness'), an infection characterized by chronic skin and eye lesions. It is estimated that at least 17.7 million people are infected, 500,000 are visually impaired and another 270,000 are blind in the 37 countries in Africa and the Americas and Yemen. Ivermectin is a safe and potent microfilarial drug that has assumed a major role in efforts to control or eliminate onchocerciasis.

Dr. Richards highlighted milestones in the river blindness control efforts and commented on the overall strategy and structure of the program:

- In 1987, Merck & Co. decided to provide Ivermectin free of charge to river blindness control programs.
- In 1991, PAHO called for the elimination of all morbidity from river blindness in the Americas by 2007 through mass distribution of Ivermectin.
- The six endemic countries are: Brazil, Colombia, Ecuador, Guatemala, Mexico, Venezuela: OEPA strategy is to distribute Ivermectin semi-annually in these countries.
- The total cost of the regional initiative is approximately US\$17.6 million. The largest contributors have been the six governments of the endemic countries.

- Population at risk has been reduced by 86% from 1996 to 2001.

Recent meetings of the group with the WHO have revealed the following challenges in the next decade:

- The need for new and alternative diagnostic techniques for monitoring incidence of disease in human populations
- Logistics needed to apply PCR in the field to measure infection rates in black flies
- Better monitoring of ocular morbidity
- The critical role of good data collection, analysis and information exchange.

Discussion

During discussion, Dr. Richards was asked several questions regarding indicators used to determine populations at risk. He explained that this was based on a community-by-community assessment with 50 individuals tested per community.

XIII. GROUP DISCUSSION II: DEFINITION OF A REGIONAL PLAN

Participants divided into three groups to define a regional work plan. The group's were each given a spreadsheet to fill in, regarding treatment goals for the next five years. The group's were divided as follows: Group A: Guyana / Suriname, Group B: Costa Rica / Trinidad & Tobago / Brazil, Group C: Dominican Republic / Haiti.

Group A

The following are key summary items of discussion among participants in Group A.

- *Population at risk:* 1,500,000 (Dominican Republic), 6,000,000 (Haiti)
- *Treatment Objective:* DOR plans to cover 500,000 people with a mass treatment program using Albendazole and DEC in the first year. Haiti plans on treating roughly 200,000 people in the first two years of a mass treatment program. In the third year, the number treated would jump to 6 million. By the year 2003, it is projected the program would need 20 million tablets of DEC and 5 million tablets of Albendazole.

- *Mapping:* Mapping in DOR is projected to be completed in three years. Methodologies will be reviewed to make the mapping easier and cheaper. The mapping was completed in Haiti which now gives a more accurate picture of the LF problem in the country.
- *Social Marketing:* More preparation is needed in Haiti before a mass treatment program is initiated. The year 2000 was seen as a year of preparation, organization, education, and community mobilization. The mass treatment of the 6 million people could perhaps begin in 2003 in Haiti. Resources in DOR are scarce and spread throughout the nation so they intend to use them most effectively to cover the majority of those in need. The DOR also plans to collaborate with program authorities from Brazil and Haiti, the dermatology department in the DOR, and local NGOs.

Key needs of each program the coming year:

Dominican Republic

- *Technical:* 2,500,000 DEC tablets and 510,000 Albendazole tablets. Research collaboration with universities and international institutes to improve on epidemiological and entomological assessments.
- *Political:* None.
- *Financial:* Currently only limited resources are available. Funding is coming primarily from the National budget allocations, the Gates Foundation, and PAHO/WHO. The DOR will require funds to support five years of work.

Haiti

- *Technical:* The Leogane project will need nearly 400,000 DEC tablets, 90,000 Albendazole tablets, Acetaminophen, and medical supplies. In the next 15 months the establishment of 6 sentinel sites will be established.
- *Political:* The Ministry of Health feels more work is needed before implementing a mass treatment program.
- *Financial:* It is still unclear as to the total cost of the project. Current funding is provided through the Ministry of Health, the Gates Foundation, the University of Notre Dame, GlaxoSmithKline, Interchurch Medical and other international NGOs.

Group B

The following are key summary items of discussions among participants in Group B:

- *Population at risk:* 4 750 000 persons in BRA.
- *Estimation of number of persons infected:* 84,600.
- *Treatment Objective (no of proposed treatments in 2002):* COR and TT have 0 pending completion of mapping. BRA will use case detection and treatment and estimates 2200 DEC treatments (1800 treated in 2001).
- *Mapping:* Most critical for TT and COS to determine if there is a need for a treatment program. Mapping in TT will begin in 2001 and be completed in 2002. COS will complete mapping in 2001. BRA would need further EPI assessments.
- *Social Marketing:* Discussion in the group revolved around increasing passive surveillance and case detection by including messages to both the general public, professional societies, and other potential sources of information. However there was a concern that such messages may be premature in COS, and lead to reporting of non filarial LE and ‘false leads’ that could disrupt the program and cause general public concern.

Key needs of each program in the coming year:

Trinidad and Tobago

- *Technical:* Algorithm for false positive ICT needed, technical personnel released
- *Political:* Not perceived as a public health problem (political will)
- *Financial:* Resources depend upon resolution of political will problem

Costa Rica

- *Technical:* Algorithm for false positive ICT needed, technical personnel need training, Entomology (Traps, PCR?) and Ab testing needed to increase depth of epi evaluations
- *Political:* Not perceived as public health problem (political will).
- *Financial:* None allocated to a program.

Brazil

- *Technical:* Case detection process to increase capture of estimated infected population, Training in morbidity control
- *Political:* In decentralized involvement, advocacy at municipal level needed for program execution
- *Financial:* Costs of environmental and sanitation improvements (and related activities) are considerable.

Group C

The following are key summary items of discussion among participants in Group C.

- *Population at risk:* 680,000 (Guyana), 400,000 (Suriname)
- *Estimation of persons infected:* 64,000 (Guyana), 250 (Suriname)
- *Treatment Objectives:* First year objectives (August 2001 – August 2002) for Guyana will be to cover 190,000 people using DEC salt. Suriname will also treat imported cases. Guyana plans to maintain its coverage of 190,000 people over the second year and increase coverage to the entire population (770,000) by the fifth year of the program.
- *Mapping:* Guyana has completed their mapping and plans to establish 2 sentinel sites in 2002. Suriname plans to begin mapping at the end of 2001 and complete it the following year. They will establish one sentinel site.
- *Social Marketing:* Guyana plans to begin an educational and social marketing campaign in 2002. By 2003, there will be 7 disability prevention sites for those with LF in Guyana.

Key needs of each program in the coming year:

Guyana

- *Technical:* Guyana will need 1,900 kilograms of pure DEC to add to the salt. This number will increase to 8,000 kilograms by 2003. There are other requirements that are associated with DEC salt treatments such as quality assurance, quality control labs, establishment of monitoring systems, and the packaging and shipping of the fortified salt.

- *Political:* The government will need to pass a law on quality assurance and monitoring for the DEC salt.
- *Financial:* The current working budget for the LF Program in Guyana is US\$50,000. This figure will increase to US\$133,000 in 2002. Guyana is looking internally for funding from the Ministry of Education, Ministry of Health, local industries and service clubs such as the Rotary Club and Red Cross. The country will approach the DFID, European Union, USAID, UNICEF, the Kiwanis International Foundation, and the Turner UN Foundation as well as the Thrasher Foundation for additional funding.

Suriname

- *Technical:* Suriname will not implement a mass treatment program. However, due to imported cases, the program will need 50,000 DEC tablets in 2002. An entomological survey will be conducted as well as a study of the effects of improved sanitation.
- *Political:* None.
- *Financial:* Upon the results of the ICT card survey, the 2002 budget will be determined. The budget in 2001 was US\$20,000, most of which was used for mapping and meetings. Additional funding sources should be explored including the European Union, Turner UN Foundation, the Netherlands Fund for the Handicapped, and UNICEF.

Discussion

The discussion emphasized the following issues:

- The plans of action should be more specific.
- Importance of partnerships with organizations such as UNICEF, UNDP, USAID, World Bank, etc.
- Drug distribution methods (house to house/observed). In DOR one volunteer is able to cover 25 houses and administer the drugs themselves.
- The role of health education in LF programs.
- Management of adverse reactions and the DOR experience in the use of a manual.
- Concern of some about social marketing and the possibility of it disrupting other program activities.
- Political role and the challenges faced in a decentralized environment such as Brazil.

XIV. FINANCIAL CONSIDERATIONS

Laurie Ferrell, Emory University

Laurie highlighted the importance and utility of various financial strategies/guidelines for procuring and ensuring funding of National LF Programs such as:

- Tracking costs and donor accountability.
- Having a financial strategic plan.
- Decreasing costs – doing more with less.

She also noted key aspects affecting costs were

- Coverage levels.
- Allocation of staff—the “right mix.”
- Availability of supplies.
- Location of service—rural vs. urban.
- Macroeconomic variables—e.g. inflation, currency fluctuations.

Her organization’s services would be helpful in

- Attracting donors.
- Costing National Programs.
- Defining resource needs.
- Setting up fiscal monitoring and reporting systems.
- Demonstrating effectiveness.
- Reviewing your current accounting systems.
- Setting up systems to track funding streams.
- Production of useful financial data.

XV. WRAP UP: HIGHLIGHTS OF THE MEETING

*Prof. David Molyneux
Lymphatic Filariasis Support Center
Liverpool School of Tropical Medicine*

Dr. Molyneux’s began by commenting on the initiative in general. First, that this was the biggest drug donation program in existence. Secondly that it

was a challenge because of a highly complex set of issues: technical, managerial, financial, political, in a region where LF and methods for its control are probably the most diverse in the world. He referred to the Americas as the best resource region in terms of finances and technical skills and as such, has the best chance of all the regions, to eliminate LF.

His discussion centered around four themes: partnership, responsibility, challenges and planning.

On partnership, he discussed the importance of regional leadership, while emphasizing the importance of global thinking. He described the goal of the partnership as achieving wide coverage to ensure the next generation of children born is infection/disease-free. He mentioned the responsibility of the group to this end and alluded to the ethics of not fully intervening when the drugs are being donated free.

He pointed out that the program should make maximal use of the donated drugs, even if all the variables are not known at this stage. He cited examples of other treatment campaigns (e.g. guinea worm) and their successes based on not full knowledge of the transmission routes/drug effectiveness. Taking risks and moving to scale will provide lessons which will move the initiative forward.

Dr. Molyneux pointed out the need to link LF efforts to other health initiatives such as leprosy control and malaria. Three key issues in this context that he brought up were: sustainability, coverage and modeling. Sustainability was linked to social mobilization, coverage was linked to standardization of methods and modeling would be an asset in defining a strategy.

One of the main responsibilities he cited was to respect the generosity of donors and to take this into account in planning to scale up. Other programs (e.g. malaria) have been criticized because they have been slow in scaling up their programs.

In terms of disability management, he noted the need for comprehensive strategies for wider implementation of disability prevention in rehabilitation programs. There is also a need to disseminate the knowledge achieved, make that literature available, maintain and expand the training

centers and finally, disseminate the techniques that have already been tried and tested. He noted the involvement of Handicap International in pushing these efforts forward. He commented on the wider range of actors now involved, and an opportunity to institutionalize disability management courses for both doctors and nurses.

He mentioned multi-disease approaches occurring in Guyana, Haiti and the Dominican Republic where they are seeking to link leprosy programs and community involvement with LF.

On the issue of governance of the partnership, he commented on the need to remain flexible and minimally bureaucratic in order to find the most cost-effective ways of working together. The mission of the partnership is to co-fund and together leverage further support from WHO/PAHO, CDC and other gates partners. He remarked on the success of partner networking in the last year throughout the region with WHO/PAHO, UNICEF, CDC, VSO, St. George's University (Grenada), etc.

In the context of the global alliance, he cited a few critical issues for the partnership:

- To be non-restrictive and open anybody but based on mutual respect and sensitivity to the perspectives of each actor;
- Synergy in maximizing the overall output of the group.
- Assigning credit where credit is due within the partnership.

Dr. Molyneux closed his comments by setting challenges for the initiative:

- Complete mapping in all the regions. Start treatment and set annual treatment targets.
- Standardize evaluation parameters and obtain any requisite pre-treatment data.

- Train staff and install the software for reporting LF and other infectious disease data in all Ministries of Health.
- Demonstrate integration of LF efforts into leprosy, malaria and dengue programs.

Challenges to the LF program itself will be the result of fundamental global health policy issues, mainly that that disease control doesn't strengthen health systems and that decentralization creates its own problems, the conflict of national priority, district priority and local health policy. Dr. Molyneux again brought up the examples of the Guinea Worm Program and River Blindness Programs which went forward and achieved great advances, not only in terms of public health but in terms of economic return and social development.

Dr. Molyneux closed in saying that, by comparison with other diseases, such as malaria and TB, LF control is simple and the Region has the skills, the commitment, the resources and the partnerships to make it happen.

Dr. Gandhi

Dr. Gandhi thanked all of the delegates on the past year's progress in the individual countries.

She commented on the quick progress made by the LF program during her two years as Representative in Guyana and the collaboration with PAHO in moving forward on the national plan, the mapping and morbidity exercises. She expressed PAHO's commitment to future work with the Ministry of Health in Guyana and close collaboration with the University of Grenada, Liverpool School of Tropical Medicine, CDC, GlaxoSmith Kline and all the other partners in the global alliance so that Filariasis can be eliminated in the Americas.

Dr. Ramsammy

Dr. Ramsammy reiterated his faith in the strength and skill of the LF partnership, expressing a desire for Guyana to take the leadership in these efforts in the future. He closed with special thanks to the local staff that made the meeting possible and to the PAHO/WHO.

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ANNEX II: AGENDA

Day 1 (20 August 2001)

8:00-8:30	Registration		
8:30-9:00	Opening Ceremony Chairman : Dr. Rudolf Cummings Minister of Health; Guyana Dr. Bernadette Theodore-Gandi; PAHO/WHO Representative; Guyana Dr. Rudolf Cummings; Chief Medical Officer; M.O.H., Guyana Dr. Nevio Zagaria; WHO/Geneva		
9:00-9:15	Dr. John P. Ehrenberg; Meeting Coordinator Introductions, orientation and review of the agenda.		
9:15-4:45	Country Presentations: Progress Report. Chairman: Dr. John P. Ehrenberg Rapporteur: Dr. Gilberto Fontes		
9:15-9:45	GUYANA		
9:45-10:00	Discussion.		
		10:00-10:15	Break
10:15-10:45	SURINAME		
10:45-11:00	Discussion.		
11:00-11:30	DOMINICAN REPUBLIC		
11:30-11:45	Discussion.		
11:45-12:15	BRAZIL		
12:15-12:30	Discussion.		
		12:30-2:00	Lunch
2:00-2:30	HAITI		
2:30-2:45	Discussion.		
2:45-3:15	COSTA RICA		
3:15-3:30	Discussion.		
3:30-4:15	TRINIDAD & TOBAGO		
		4:15-4:30	Break
4:30-4:45	Discussion.		
4:45-5:15	Dr. Nevio Zagaria / Dr. John P. Ehrenberg : The Technical Advisory Group (TAG) & the Regional Program Review Group (RPRG).		
5:15-5:30	Dr. John P. Ehrenberg: Regional funding up-date, local fund raising efforts & counterpart support.		
5:30	Adjourn		

Day 2 (21 August 2001)

- 8:30-12:30 ***Program implementation: issues of interest raised by different LF program coordinators***
CHAIRMAN: PROF. BALTUS OOSTBURG
Rapporteur: Dr. Steven Ault
- 8:30-9:00 Dr. Guillermo González: Social communication/community mobilization:
Dominican Republic Experience
- 9:00-9:15 Discussion
- 9:15-9:40 Dr. David Addis: Treatment activities and related issues such as sustainability, coverage,
drug distribution mechanisms, human resources needs, potential role of NGOs, treatment
exclusion criteria and mathematical modeling.
Chairman: Dr. Eric Ottesen
Rapporteur : John P. Ehrenberg
- 9:40-10:00 Dr. Nevio Zagaria: Health Education and LF Training Materials, validation, adaptation &
other needs.
- 10:00-10:15 Discussion & Break
- 10:15-10:45 Dr. Gilberto Fontes: Program “challenges and needs” emerging from the
results of the mapping experiences in Maceió and Belém, Brazil
- 10:45-11:15 Discussion
- 11:15-11:45 Dr. Gerusa Dreyer: Setting up the morbidity component : lessons & practical aspects
based on the experiences of Brazil, Haiti and the Dominican Republic.
- 11:45-12:15 Discussion
- 12:15-1:30 ***Lunch***
- 1:30-1:45 2002 National Plans: Group discussion guide
Chairman: Dr. Samuel Rawlins
Rapporteur: Dr. Francisco Paniagua
- 1:45-4:00 ***Group discussions: 2002 National Plans Key Issues.***

Group A: Costa Rica / Trinidad & Tobago / Suriname
Group B: Dominican Republic / Haiti / Brazil / Guyana
- 4:00-4:15 ***Break***
- 4:15-6:00 Group presentations (15 min. each).
- 6:00 ***Adjourn***

Day 3 (22 August 2001)

- 8:00-8:30 Dr. Brian Bagnall: Albendazole donation up-date by Region
- 8:30-9:00 Discussion
- 9:00-10:00 ***Other issues of interest to the Regional initiative***
Chairman: Dr. Rudolf Cummings
Rapporteur: Dr. Barnett Cline
- 9:00-9:45 Dr. Frank Richards: The Onchocerciasis Elimination Program in the Americas
- 9:45-10:00 Discussion
- 10:00-10:15 Break
- 10:15-5:15 ***Group discussion centered around the definition of a Regional Plan.***
Chairman: Dr. Thomas Streit
Rapporteur: Dr. Tess McPherson
- 10:45-11:00 Group discussions guide
- 11:00-12:30 Group A: Guyana / Suriname
Group B: Costa Rica / Trinidad & Tobago / Brazil
Group C: Dominican Republic / Haiti
- 12:30-2:00 ***Lunch***
- 2:00-3:00 ***Continues***
Group A: Guyana / Suriname
Group B: Costa Rica / Trinidad & Tobago / Brazil
Group C: Dominican Republic / Haiti
- 3:00-4:45 Country presentations (15 min. per country)
- 4:00-4:15 Coffee will be served during presentations
- 4:45-5:15 Discussion
- 5:15-5:30 Laurie Ferrel Dr. Laurie A. Ferrell Senior Financial Analyst
Emory University Financial Considerations of the LF Programs
- 5:30-6:00 Prof. David Molyneux: ***Wrap up “Highlights of the Meeting”.***
Rapporteur: Dr. John P. Ehrenberg.
- 6:00 ***Closure***

TABLE 1: REGIONAL PLANNING GUIDE

Country	Population	Population at risk	%	Estimated # of infected individuals	1st year TO ³ (01-02)	1st year Tx (actual)	% of TO ³	2nd year TO ³	3rd year TO ³	4th year TO ³	5th year TO ³
BRA 2001:	165,473,000	3,000,000 ¹	1.8	49,000	2,200	2,160	98.1	--	--	--	--
		4,700,000 ²	2.8	84,600							
DOR 2001:	8,232,000	1,500,000 ¹	18.2	100,000	200,000	0	0	500,000	500,000	500,000	500,000
		1,500,000 ²	18.2	--							
HAI 2001:	7,637,000	1,000,000 ¹	13.1	200,000	300,000	109,000 (Leogane)	34.0	100,000 (HSC ⁴ only)	6 million	--	--
		6,000,000 ²	78.6	--							
GUY 2001:	770,000	650,000 ¹	84.4	--	190,000 (DEC salt)	0	0	190,000	680,000	680,000	770,000
		680,000 ²	88.3	64,000							
SUR 2001:	442,000	400,000 ¹	90.5	250	250	0	0	Treat imported cases	Treat imported cases	Treat imported cases	Treat imported cases
		400,000 ²	90.5	250							
T & T 2001:	1,318,000	40,000 ¹	3.0	<400	0	0	0	--	--	--	--
		--	--	<400							
COS 2001:	3,649,000	41,000 ¹	1.1	3,700	0	0	0	--	--	--	--
		10,000 ²	0.2	0							
TOTAL	187,521,000	6,631,000 ¹	3.5	~353,350	692,200	111,160	16.1				
TOTAL		13,290,000 ²	7.0	~149,250							

1: WHO estimates.

2: Current program estimates.

3: Treatment objectives.

4: St. Croix Hospital.

TABLE 2: PROGRESS IN THE ELIMINATION OF LYMPHATIC FILARIASIS

Country	National Focal Point	Plan of Action	Ongoing Efforts to Mobilize Resources	National Task Force	Albendazole Application
Brazil	yes	yes	IP	IP	--
Dominican Republic	yes	yes	IP	IP	Yes (pilot study)
Haiti	yes	yes	IP	IP	IP (HSC)
Guyana	yes	yes	yes	yes	IP
Suriname	yes	yes	yes	IP	--
Trinidad & Tobago	yes	yes	yes	yes	no
Costa Rica	yes	yes	yes	IP	--

IP: In process.

HSC: St. Croix Hospital.