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STAG-NTD M&E sub-working group on disease specific indicators

Re-assessment of status of 9 LF-endemic countries that did not require MDA

14-15 March 2011

Atlanta, GA USA

Draft meeting report: 23 March 2011

Rapporteur: Molly Brady

DAY ONE

Introduction

Dr Lammie, chair of the meeting, explained that the sub-working group was formed to provide technical guidance to neglected tropical disease (NTD) programs on an ad hoc basis. This current meeting was convened to review the status of 9 countries which were classified as endemic, but that did not require MDA. The report of this meeting will be presented to the M&E Working Group meeting in Geneva at the end of March, which will then report to the Strategic and Technical Advisory Group on Neglected Tropical Diseases (STAG-NTD).

Dr Ichimori outlined the objectives of the meeting as reviewing the information presented by each country to 1)confirm if data are sufficient (quantity), valid (quality), and acceptable (meets criteria), and 2) make conclusions and recommendations on the current status of lymphatic filariasis (LF) endemicity. Data are generally sufficient if the information includes: general country statistics, history of LF, baseline prevalence of LF, interventions against LF or other related diseases, assessment of these interventions, and results of surveillance. Data are valid if data were collected by technically sound survey methodologies. The criteria for acceptable data are not exactly the same as the criteria outlined in the draft new WHO Monitoring and epidemiological assessment of mass drug administration in the Global Programme to Eliminate Lymphatic Filariasis manual (M&E manual), as these 9 countries represent unique cases, because they were classified as endemic, but after mapping were found not to require MDA. Conclusions and recommendations of this meeting will be presented to the M&E Working Group, as well as to WHO Regional Offices for review by the Regional Program Review Groups.

Participant introductions were made in a roundtable fashion. Many thanks were given to Center for Neglected Tropical Diseases in Liverpool and WHO for supporting the meeting and to the Task Force for both supporting and hosting the meeting.

Update on Monitoring and Evaluation in the Global Programme (M Brady)

M Brady presented highlights from the new draft WHO M&E manual. At the request of the STAG-NTD, WHO has revised the 2005 manual to include recommendations from country experiences and operational research results. The indicators to measure drug coverage now match the 2010 WHO Preventive Chemotherapy Monitoring and Evaluation guidelines. The draft manual now recommends at least 1 sentinel and 1 spot-check site per implementation unit, with data collection pre-1st MDA, pre-

4th MDA, and pre-6th MDA. Assessments should measure microfilaraemia levels in a population of at least 300 people greater than 5 years old. After 5 rounds of MDA (each with at least 65% drug coverage in total population) and sentinel and spot-check site microfilaraemia levels less than 1%, countries are urged to implement a Transmission Assessment Survey (TAS) to determine whether MDA can be stopped. The TAS takes place in evaluation units, which are implementation units or combinations of implementation units, with an upper population limit of 2 million. The TAS measures antigenaemia levels (by immunochromatographic test or ICT) in Bancroftian areas and antibody levels (by Brugia Rapid tests) in Brugian areas in 6-7 year old children. A Survey Sample Builder exists to help countries determine whether surveys should be implemented in schools or communities, using cluster or systematic sampling. The M&E manual also includes recommendations for post-MDA surveillance, including a repeat TAS at 2-3 years and 5-6 years after MDA has stopped, as well as continuous nationwide surveillance. Finally, the manual includes a process for verification of absence of LF transmission and recommendations for what should be included in a country dossier.

Criteria for Re-Assessing 9 Endemic Countries That Didn't Require MDA

The group discussed what the appropriate criteria were for classifying the 9 countries in terms of endemicity status. The group agreed that the evidence needed for the classification process should be matched to the level of risk of LF transmission. For example, a low level of risk would exist in places with no infections detected since 1960 and geographical/climatic factors incompatible with vector transmission or substantial limitations in human-vector contact. Countries with a low level of risk would not need as much assessment and survey data as those countries with greater risk of transmission.

Important risk factors discussed included:

- Number of reports in non-immigrants after 1960 from any source
- Environmental conditions
    - Number of endemic neighbors
    - Extent of geographical isolation
    - Vector capacity
    - Climate for vectors
- Social conditions
    - Size of population
    - Population density
    - Development level of country or extent of development
    - Coverage of safe water and sanitation
    - Performance of health sector (access, ratio docs/pop)
        - Surveillance capacity
    - Political stability
    - Extent of migration from LF-endemic countries
- Interventions
    - Past and present effective vector control measures

AFRO Update (L Mubila)

Dr Mubila presented a brief summary of the AFRO LF elimination programmes. Fifty-two percent of countries (19 out of 34) are implementing MDA, with 16% of the at-risk population covered. Togo and Zanzibar have phased out MDA nationwide, while Burkina Faso, Tanzania, and Ghana are phasing out MDA in some areas. Five countries do not require MDA and two of these (Mauritius and Rwanda) have compiled dossiers at the recommendation of the Technical Advisory Group (TAG).

Burkina Faso (D. Kyelem): Experience with M&E and TAS

Burkina Faso mapped for LF in 2000, by randomly selecting sites instead of going to high-risk areas. The entire country was classified as endemic and MDA was started in 2001 in highest-risk areas.

In terms of ongoing assessment, due to resource constraints, Burkina Faso grouped districts together for sentinel sites. Spot-check sites were often randomly selected, especially if areas of high endemicity were not known. In the highly endemic area of the Southwest and East regions, microfilaraemia rates of >1% were still found after 7 MDA rounds. In areas with high baseline levels of clinical disease, 9 rounds of MDA still haven't lowered microfilaraemia levels below 1%. The programme is planning twice annual rounds of MDA to better reach the population in these areas and account for non-compliance and migration.

In December 2009, a TAS was implemented in one evaluation unit, composed of 1 urban and 2 rural districts. Mapping had found antigenaemia levels of 2.5% in the urban city, with an overall prevalence of 12%. Six rounds of MDA had been implemented. A TAS was implemented using the 30 cluster methodology, testing 1556 6-7 year-olds in the community, as primary school enrolment was ~60%. The critical cut-off level was determined to be 18 antigen positives; 13 were found by ICT, with 2 of those positive for microfilaraemia. Seven of the ICT positive cases had received MDA, 6 had not. Two were from urban areas. Eight were attending school and 5 were not.

The TAS took 19 days to implement, with 84 children sampled per day. The team spent 11 minutes with each child, not including the census. Enumerating households was difficult, with considerable walking distances each day, and difficulties in reading census sketch maps. In general, insufficient financial resources were allocated for monitoring and evaluation throughout the programme lifespan. The population seasonal movement in country and with neighboring countries also made drug coverage data difficult to collect.

Togo (Y. Sodahlon)

Togo mapped for LF in 2000, as part of the regional effort using the RAGFIL method. Seven (of 35) districts were found to be endemic by ICT, with a population at risk of 1.3 million. MDA started in 2000, with full coverage occurring in 2003. Many areas had microfilaraemia rates of 0% after 3 MDAs. Coverage rates were >70% in all 9 MDA rounds and MDA was stopped in 2009. Post- 5th round assessment found 0% microfilaraemia rates in sentinel sites. From 2005-2009, 24 spot-check sites were sampled.

In 2008, a community LQA cluster antigenaemia survey using ICTs with 30 clusters per endemic district was implemented following the 2005 WHO guidelines. Each cluster included 10 children 2-4 years old and 10 children 5-6 years old. Only 2 districts passed as expected cutoff was zero. Five other districts had high rates of positive cases; however, many positive ICT cases were not confirmed by Og4C3. MDA was stopped in 5 districts, and continued in Tone and Doufelgou.

In 2009, a TAS survey was implemented in 1 district which had completed 6 MDA rounds. The TAS was school-based, with a critical cutoff level of 18 positives. Two positives were found.

Since 2007, post-MDA surveillance has been ongoing through dual screening in laboratories that screen night blood films for malaria. Since 2007, two positive slides have been found, but follow-up investigations did not find ongoing transmission. On average, 4025 slides are received each year, from 1214 unique villages (2007-2009). Eighteen areas that were under sampled were found and these areas now collect filter papers in dispensaries to screen with ELISA in the central laboratory. A surveillance system using blood donations was found to have lower coverage, so will not be used for ongoing surveillance.

To prepare for verification, in 2010 the program reassessed the situation in 24 non-endemic districts and in border areas. 7800 adults (>15 years) – approximately 100 in each of the 76 villages in 25 districts (22 non-endemic, 3 endemic) - were tested for antigenaemia, using the RAGFIL method, with 35 kilometer grid sampling in non-endemic districts and 10kilometer grid sampling in high-risk districts (those with high morbidity, or in border areas). The survey found 5 border villages in 3 endemic districts with antigen prevalence from 1-3%. In addition, 6 villages in 4 non-endemic districts were found with antigen prevalence from 1-3%. All 23 positive ICT cases were investigated, and all were negative for microfilaraemia. The program concluded that if any transmission is ongoing it is at a low level, and ITN coverage from the malaria program should help keep the risk of recrudescence low.

AFRO Countries to be Re-assessed

Each invited AFRO country then presented evidence for current classification of LF endemicity. The data was grouped by historical evidence, past interventions and assessment, current environmental risks, current social risks, and other ongoing interventions.

Burundi (O. Ndayishimiye)

The historical evidence for LF transmission includes reports of some clinical cases of lymphedema and hydrocele. However, given that it is difficult to differentiate cases of LF-related lymphedema from other causes like podoconiosis, which is known to be a cause of lymphedema, these lymphedema cases are not necessarily evidence of LF endemicity.

In 2007 and 2008, a baseline mapping antigenaemia survey using ICTs was completed in 15 communities below 1500meters in 13 (of 45 total) districts. 1373 adults (15-98yo), two-thirds of whom were female, were tested, with no positives found. However, upon finding 1 suspect positive(which turned out to be

negative by microfilaraemia and PCR),a follow-up survey of 250 adults living within 7 kilometers of the suspect positive case were tested with ICT and no positives were found.

There are still current environmental risks, as many other neglected tropical diseases are common, including soil-transmitted helminthes and malaria. The vector for LF is unknown, but most likely is *Anopheles*. However, most of the population lives above 1500 meters, in areas where LF vectors are assumed to be rare. In addition, the population is not clustered into villages, but is spread out, reducing the risks of transmission.

There also are current social risks, as migration and repatriation from LF-endemic countries is common; with many repatriated people returning after the LF mapping was complete. Burundi is one of poorest countries in the world, recovering from decades of ethnic violence, and the health system lacks qualified human resources.

There are ongoing interventions in other disease control programs which should reduce the ability of LF transmission to occur. Vector control against malaria includes 100% coverage of insecticide-treated nets (ITNs), and indoor residual spraying (IRS) in highly endemic areas.

After discussion, the recommendation was to classify Burundi as non-endemic for LF. The group recommended that Burundi submit a dossier to the RPRG that includes further data collection in potentially high-risk districts and follow up of hydrocele cases, as well as issues of vector species and the effectiveness of malaria program. In addition, Burundi should continue to provide services for hydrocele and lymphedema cases.

Cape Verde (T Valdez)

The historical evidence for LF transmission in Cape Verde includes a 1950s study showing microfilaraemia rates from 0 to 47%, with a focal area in Santa Cruz, in the north of Santiago Island. However, no clinical cases have been reported since the 1950s.

In 2004 and 2005, Cape Verde mapped for LF antigenaemia using ICTs taking 100 samples per island and 632 from all municipalities on the main island (Santiago), where more than 50% of population lives, including Praia city. Of 1455 people tested, 4 were uncertain positives, all of which were negative by antigen testing at CDC. Fifteen cases of elephantiasis were found scattered throughout the islands; however all were in people greater than 60 years old. A WHO mission in 2005 concluded that LF transmission was interrupted.

The current environmental risk is very low. Cape Verde is an isolated island nation in the Atlantic Ocean, with a population of 500,000 people. From 1948 to 1968, vector control for malaria was implemented. The current climate is very dry and inhospitable to vectors, although some *Anopheles*, *Culex*, and *Aedes aegypti* can be found.

The current social risk is also very low. Cape Verde is now a middle income country, politically stable, with an improving health system. Water and sanitation coverage is good, with 54% of population with access to improved sanitation facilities (World Bank, 2008) and 80.8% of the rural population with access to improved water source (World Bank, 2008).

Vector control interventions will continue on the main island as the Ministry of Health aims to eliminate malaria by 2020. This effort could help keep LF transmission from recrudescing. Screening for malaria at airport in migrants is ongoing, and screening of migrants from LF-endemic countries could be added to this process.

After discussion, given the low environmental and social risks, no clinical cases in the past 50 years and ongoing vector control through the malaria programme, the recommendation was made to classify Cape Verde as non-endemic without conditions.

Seychelles (J Gedeon)

The historical evidence for LF transmission in the Seychelles includes low numbers of clinical cases reported from the three main islands prior to 1976. The last LF-related clinical case was reported in 1990. In the last 20 years, all lymphedema and hydrocele cases reported were found to be due to causes other than LF.

No mapping was completed, due to the absence of clinical cases.

The current environmental risk is low. Seychelles is an isolated island nation, with a population of only 87,000. The vectors for LF are virtually non-existent. There are no *Anopheles* mosquitos, and *Culex* mosquitos have been reduced in recent years due to decreasing habitats. *Aedes albopictus*, which does not transmit LF, is now the major mosquito species present.

The current social risk is also low. The Seychelles is an upper middle income country, which has improved economic standards, improved access to health care and intensified mosquito control since independence in 1976 and the Alma Ata declaration on primary health care in 1978. The health system has universal coverage and surveillance reporting from all health facilities. Lymphatic filariasis remains on the list of reportable diseases under surveillance. While there is a small population of migrant workers from China, India, and Southeast Asia, screening for LF-related disease is included in medical exam required for all immigrants.

After discussion, given the low environmental and social risks, as well as the absence of clinical cases for 20 years, the recommendation was made to classify the Seychelles as non-endemic without conditions.

Rwanda (T Nyatanyi)

The historical evidence for LF transmission in Rwanda is scarce. There are no historical medical reports on filarial disease in Rwanda; however, a 1976 publication by Price details cases of podoconiosis.

In 2007, the Ministry of Health Field visited 8 districts and found 5 cases of lymphedema and numerous cases of hydrocele. This was followed in 2008 by a cross-sectional mapping survey for antigenaemia using ICT in 13 villages in 5 of 6 districts which had an altitude below 1500 meters and most of the reported clinical cases. In total, 797 people (older than 15 years, living in villages for 10 or more years) were tested, with 4 positive ICTs on first test. With confirmation by a follow-up ICT, 1 of 4 was found to be positive. A survey of 200 individuals in the neighboring village of the positive case found no positive cases. However, the investigation did not determine whether the positive case had traveled, and the case's family and relatives were not tested.

There are some current environmental risks, as Rwanda has vectors which transmit LF. A February 2011 survey found that *Anopheles gambia* is the major mosquito species present in Rwanda, but the extent of *Culex* mosquitos is still uncertain. The prevalence of malaria is 2.6%, with most malaria cases in eastern and southern regions. However, most of the country is above 1500meters, where LF vectors are assumed to be rare.

There are some current social risks as well. Rwanda has a GDP ofUSD520, with the goal to become a middle income country by 2020. Cross-border movements from LF-endemic countries are common through porous borders. However, there is universal access to health care, and 90% of population has insurance.

Other ongoing interventions against malaria could help ensure that LF transmission will not occur. Vector control by malaria unit is ongoing with ITNs distributed to 53% of the population, and IRS in highly-endemic foci.

After discussion, based on historical and mapping evidence, as well as ongoing malaria interventions that will also affect the LF vector, the recommendation was made to classify Rwanda as non-endemic for LF. The group recommended following up the reported hydrocele cases to determine if they were LF-related. It also commended Rwanda's plans to fold LF vector surveillance into malaria sentinel site surveillance. In addition, Rwanda should continue to provide services for hydrocele and lymphedema cases.

Mauritius (L Mubila)

The country representative from Mauritius was not able to attend; therefore the data was presented by L Mubila, on behalf of the WHO Regional Office, and P Lammie, on behalf of the assessment team that visited Mauritius in 2007.

The historical evidence of LF transmission in Mauritius includes reports of clinical cases, as LF was a notifiable disease. However, the last case was officially reported in the 1962. In 1980, 12,646 people were checked for microfilaraemia and no positive slides were found.

Past interventions include an effective malaria vector control program in the 1960s and 1970s. This programme is ongoing and includes border surveillance, with full-time microscopists checking all people coming from malaria-endemic areas by blood film.

The current environmental risk is low, as Mauritius is an isolated island nation with a population of 1.28 million.

The current social risk is low. Mauritius is an upper middle income country that has experienced economic growth over the past 20 years. It has an effective health system, which has eliminated schistosomiasis and malaria. Safe water (99%) and sanitation (82-96%) coverage has steadily improved and is currently high (WHO, 2010).

After discussion, based on low environmental and social risks and absence of clinical cases, the recommendation was made to classify Mauritius as non-endemic for LF.

WPRO Update (CP Ramachandran)

WPRO is split into two sub-regions: Mekong Plus which has 6 endemic countries and PacELF which has 17 endemic countries or territories. Four countries are in the post-MDA surveillance phase: Cook Islands, Niue, Tonga, and Vanuatu. Brunei Darussalam was originally thought not to require MDA, based on a 2006-2007 survey for antibodies using Brugia Rapid tests, which found 29 (0.2%) positives from 14,411 schoolchildren in 6-7 schools per district. However, the Ministry of Health decided in 2010 to implement MDA for 2 rounds in 3 districts and then reassess. Therefore, only 1 country – the Solomon Islands – presented evidence for re-assessment of endemicity at this meeting.

Solomon Islands (T Dalipanda)

The historical evidence for LF transmission in the Solomon Islands includes reports of clinical cases of lymphedema, as well as positive results of microfilaraemia and antigenaemia in population-based surveys. Microfilaraemia surveys in Guadalcanal province found 762 (25%) of 3053 people infected pre-control with indoor residual spraying (IRS) and 3 years after IRS, 94 (19%) of 502 people infected. In 1970-1971, a microfilaraemia night blood film survey in Choiseul province after 2 years of vector control found 209 (15%) of 1385 people tested positive, with 11 elephantiasis cases reported. Further microfilaria surveys were completed in 2 villages in Choiseul from 1974 to 1978, with 0 positives found in 1978. In Shortlands province, 10 years after vector control was started, 1 positive microfilaraemic case (0.3%) was found of 376 people screened, with 7 cases of elephantiasis reported.

Past interventions in the 1960s and 1970s to eradicate malaria reduced malaria cases to less than 17 per 1000 people through IRS with DDT. The main vector of malaria (and LF), *Anopheles farauti*, changed its biting behavior from late at night to early evening, from indoor to outdoors. By 1970s, IRS was not effective and in the late 1980s, ITNs were introduced with the objective of 90% coverage. Currently, a malaria elimination program focused on vector control is ongoing in 2 provinces with less 10 cases per 1000 people, while control programmes are ongoing in other provinces.

A 2001 morbidity survey found 144 cases of elephantiasis and hydrocele reported by health workers and 76 cases reported by community surveillance workers, scattered throughout the 8 provinces. As a result of finding clinical cases, a series of assessments was done post-2000:

- In 2001, 4035 people were tested for antigenaemia by ICT throughout all 8 provinces, but not necessarily from every inhabited island. Approximately 300 were tested per province, with half under age 25 and half older than 25 years. No positives were found.
- In 2001, 1000 people (22-100 per village) were tested for antigenaemia by ICT in two high-risk provinces, Temotu (11 villages) and Western (9 villages), which had not been fully covered by malaria control activities. No positives were found.
- In 2003-2004, 11,364 5-6 year-olds in Central province were tested for antigenaemia by ICT, using a LQAS design. Thirty positives were found; however, when these positives were sent to CDC for serologic analysis, all were found to be negative.
- In 2005, 62 blood samples from Guadalcanal province were sent to CDC for antibody testing using Bm14 assay. No positives were found.
- In 2007, 125 children (10-15 years old) in Temotu province were tested for antigenaemia by ICT and no positives were found.

The current environmental risk remains, with *Anopheles* vectors present. However, the ongoing malaria control and elimination programmes will continue to implement vector control measures against *Anopheles*. The Solomon Islands has a population of 500,000 spread over 6 main islands.

The current social risk remains as well, as the Solomon Islands has the lowest income of Pacific countries, with a GDP of less than USD1000. Water and sanitation coverage are low, with only 20% coverage in rural areas where 80% of the population lives. Ethnic violence from 1998 to 2003 resulted in non-functional government services during this time period. The health system is rebuilding, with 9-16% of the government budget going to health; however the health information system is currently inadequate. The Solomon Islands share sea borders with Papua New Guinea and Vanuatu, with lots of unregulated cross-border movement. In addition, many students study regionally and return home periodically.

Ongoing interventions include vector control for malaria through ITN and IRS.

After discussion, given the past interventions and results of assessments, the recommendation was made to classify the Solomon Islands as non-endemic for LF. The group recommended exploring future opportunities to integrate malaria and LF surveillance, since environmental and social risks remain. In addition, the Solomon Islands should continue to provide services for lymphedema cases.

AMRO/PAHO Update (S Ault)

Seven countries were classified as endemic out of 35 in the Americas region. Historically, LF transmission has been limited to coastal areas with prior history of transatlantic slave trade. Four countries with

evidence of some ongoing transmission: Recife, Brazil; Haiti; Dominican Republic (2 foci, with 1 potentially interrupted); and Guyana. Three countries are being considered as eligible to be classified as non-endemic: Costa Rica, Suriname, and Trinidad and Tobago.

Costa Rica (S Ault)

The historical evidence for LF transmission in Costa Rica points to one focal area in the Puerto Limón area (60,000 population). Surveys from 1951-1980 in Puerto Limón found microfilaraemia rates from 2-17%, with a 1987 survey finding 0%. A 1976 morbidity survey in Puerto Limón, denominator unknown, found 16 lymphedema cases and 1 hydrocele case, primarily in adults older than 50 years. In 1976, a survey of 2714 *Culex* mosquitos found 6% infected and 0.1% infective.

Past interventions that affected LF transmission dynamics included vector control efforts and general improvement of living conditions (street paving, drying wetlands, and sanitation). In addition, treatment (and follow up until cure) was offered to individuals found infected with LF in surveys.

A 2002-2003 'baseline' antigenaemia prevalence survey of 3044 schoolchildren (up to age 15) by ICT in all areas of Puerto Limón found no positive cases. In addition, a morbidity survey in primary health care units found no new cases of lymphedema or hydrocele.

The current environmental risk remains as *Culex* mosquitos, the vector for LF, are still present.

The current social risk is low. Costa Rica is a middle income country with a stable political system, which has experienced great economic development in the past 20 years. Water (98%) and sanitation (95%) coverage has improved dramatically (World Bank 2008). The government health system is strong, with a good surveillance component that includes LF as a notifiable disease. There is no evidence of migration from LF-endemic countries.

Current interventions for related disease control programmes include ongoing dengue vector control in urban areas, including Puerto Limón.

After discussion, given economic improvement resulting in a low social risk and the results of the antigenaemia survey, a recommendation was made to classify Costa Rica as non-endemic for LF. Costa Rica should continue to provide services for hydrocele and lymphedema cases.

Suriname (S Ault)

The historical evidence for LF transmission in Suriname includes findings of 0.2% - 14.3% microfilaraemia rates from large-scale surveys throughout the country from the 1940s through the early 1980s, with hot-spots in Paramirabo and New Nickerie. Large–scale population screenings (>40,000 persons screened with treatment of positives) in Paramirabo showed decreasing microfilaraemia prevalence from 9% in 1959 to 0.1% in 1981.In 1979-81, mosquito surveillance showed 0% infected and infective mosquitos.

A 1998 'baseline' assessment in Paramirabo and Nickerie of 456 schoolchildren for antigenaemia by ICT found 1 positive (a Guyanese immigrant). A 2001 ICT survey in 3003 school-age children from 26 elementary and high schools found no positives. In addition, a 2000 retrospective outpatient study of 170 adults in Paramirabo and Wanica and a 2002 physician-based survey found that only lymphedema cases, all in those over 60 years of age.

Current environmental risk remains, as the LF vector *Culex quinquefasciatus* still exists.

However, current social risk is low. Suriname is a lower middle income country, with a growing economy. Since independence, it has been stable politically, with high educational levels. The health care system is adequate for surveillance and treatment of positive infective and clinical cases. Over the past 20 years, there has been continuing improvement in water supply (93% in 2008) and sanitation (84% in 2008) coverage.

Ongoing interventions include continuous vector control for dengue vectors in urban areas, including Paramirabo. The Ministry of Health also monitors immigrants from Guyana; a 2006 ICT survey in Nickerie district found and treated 2 imported cases that were antigenaemia positive.

After discussion, given economic improvement resulting in a low social risk and the results of the antigenaemia surveys, the recommendation was made to classify Suriname as non-endemic for LF. Suriname should continue to provide services for hydrocele and lymphedema cases.

Trinidad and Tobago (S Ault)

The historical evidence for LF transmission in Trinidad and Tobago showed a focus in northern Trinidad in Blanchisseuse (<1000 population). A 1980 survey in Blanchisseuse found 14.5% of 525 people positive for microfilaraemia and a 1979 survey found 7% of 2006 mosquitos infected and 0.1% infective. After 12 rounds of monthly treatment with DEC, the microfilaraemia rate decreased to 1.7% and 0% of 2211 mosquitos were found infective. In 1992, 348 people were tested for microfilaraemia and no positive cases were found.

Assessments have been done through surveys in Blanchisseuse and nationwide.

- A 1998 antigenaemia survey using ICTs in Blanchisseuse and surrounding villages in 139 children (8-11 years) found no positives.
- A 1998 nationwide cross-sectional antigenaemia survey using ICTs in Trinidad in 211 adults also found no positives.
- In 2002, antigenaemia mapping of 2597 schoolchildren (6-12 years) from 13% of primary schools in 8 regions using ICTs found no positive cases. A small-scale morbidity survey that was implemented as part of the ICT survey found no new clinical cases.
- In 2004, one imported case of LF found through dual screening of malaria blood films.
- In 2004, an antigenaemia survey by ICT of 525 individuals on both islands found no positives.

Current environmental risk remains, as the LF vector *Culex quinquefasciatus* still exists.

However, current social risk is low. Trinidad and Tobago is a high income country, with a growing economy. It is stable politically, with high educational levels. The health care system is adequate for surveillance and treatment of positive infective and clinical cases. Over the past 20 years, there has been continuing improvement in water supply (94% in 2008) and sanitation (92% in 2008) coverage.

Ongoing interventions include continuous vector control for dengue vectors in urban areas.

After discussion, given economic improvement resulting in a low social risk and the results of the antigenaemia surveys, the recommendation was made to classify Trinidad and Tobago as non-endemic for LF. Trinidad and Tobago should continue to provide services for hydrocele and lymphedema cases.

Next Steps

The meeting concluded with a discussion of next steps. The group highlighted the important efforts of countries to prepare these presentations.

- The meeting report will be shared with participants for comments.
- WHO Regional Offices to help translate country information into reports or dossiers for each country.
- The recommendations will be reported to the M&E Working Group meeting in March, then to the STAG-NTD in April. The STAG will be asked to endorse the re-assessment and to share this recommendation with WHO regional offices and RPRGs.
- In the August 2011 *Weekly Epidemiological Record* LF update, the number of endemic countries will be changed from 81 to 72.

Annex 1. AGENDA

STAG-NTD M&E sub-working group on disease specific indicators, lymphatic filariasis verification of elimination meeting : *Task Force for Global Health, Atlanta, 14 to 15 March 2011*

PROVISIONAL AGENDA		
Day 1	**Item**	**Name**
08:30 – 09:30	- Welcoming and Introduction - GPELF WHO guidelines MDA and Verification	P Lammie/K Ichimori M.Brady
09:30 - 12:00	**AFRO** 1.AFRO introduction 2. Burundi 3.Cape Verde	L Mubila Country
12:00 - 13:00	**Lunch**	
13:00 - 15:00	4. Mauritius 5. Rwanda 6. Seychelles	Country
15:00 - 17:00	7. Case study and pre-verification - Burkina Faso and Togo 8. Discussion and AFRO summary	D Kyelem, Y Sodahlon L Mubila/P Lammie

Day 2	Item	Name
08:30 – 10:00	**AMRO/PAHO** 1. AMRO introduction 2.Costa Rica 3. Suriname	S Ault
10:00 - 12:00	4. Trinidad and Tobago 5. Discussion and AMRO summary	S Ault/P Lammie
12:00 - 13.00	**Lunch**	
13:00 - 15:00	**WPRO** 1. WPRO introduction 2. Solomon Islands 3. Case study and pre-verification - Brunei, PacELF 4. Discussion and WPRO summary	E Christophel/CP Ramachandran T Dalipanda E. Christophel/CP Ramachandran P. Lammie
15:00 – 17:00	Conclusion and Recommendations	P. Lammie

Annex 2. LIST OF PARTICIPANTS

Name	Institution	Address	Email
Dr. Kazuyo Ichimori	NTD/WHO	20, Avenue Appia CH-1211 Geneva 27 Switzerland	ichimorik@who.int
Ms. Molly Brady	WHO	20, Avenue Appia CH-1211 Geneva 27 Switzerland	mollyabrady@gmail.com
Dr. Moses Bockarie	CNTD/LIVERPOOL	LIVERPOOL SCHOOL OF TROPICAL MEDICINE	moses.bockarie@liv.ac.uk
Dr. Mark Bradley	GSK	GSK HOUSE, FLOOR C 12 BRENTFOR, MIDDLESEX-TW8 9GS UK	mark.h.bradley@gsk.com
Dr. Michael S. Deming	CDC	4770 Buford Highway NE, Atlanta, GA 30341-3724	msd1@cdc.gov
Dr. Ralph Henderson	LFSC/Task Force for Global Health	1098 McConnell Drive, Atlanta, GA USA	rafeh@bellsouth.net
Dr. Adrian Hopkins	MDP/Task Force for Global Health	325 Swanton Way, Decatur, GA	ahopkins@taskforce.org
Dr. John Horton	Consultant	24 The Paddock Hitchin Hertfordshire SG 4 9EF UK	hedgepigs@aol.com
Dr. Louise Kelly-Hope	CNTD/LIVERPOOL	LIVERPOOL SCHOOL OF TROPICAL MEDICINE	i.kelly-hope@liverpool.ac.uk
Dr. Dominique Kyelem	Task Force for Global Health	325 Swanton Way, Decatur, GA	dkyelem@taskforce.org
Dr. Patrick Lammie	CDC-Division of Parasitic Diseases	4770 Buford Highway NE, Atlant, GA 30341-3724	pjl1@cdc.gov
Dr. Bernard Liese	Georgetown University	Georgetown University	bhliese@gmail.com
Dr. Likezo Mubila	WHO/AFRO	WHO East & Southern Africa Inter-Country Support Team, 86 Enterprise Road; P O Box BE 773, Belvedere, Harare, Zimbabwe	mubilal@zw.afro.who.int

Dr. Eric Ottesen	Task Force for Global Health	325 Swanton Way, Decatur, GA	eottesen@taskforce.org
Dr. CP Ramachandran	Consultant	8A-4-4 Belevedere 1/63 off Jalan Tunku, 50480 Kuala Lumpur , Malaysia	ramacp@hotmail.com
Dr. Frank Richards	The Carter Center	453 Freedom Parkway, Atlanta, GA	Fric[illegible]y.edu
Dr. Yao Sodahlon	The Task Force for Global Health	325 Swanton Way, Decatur, GA	ysodahlon@taskforce.org
Dr. Gary Weil	Washington University	Division of Infectious Diseases, Saint Louis, MO USA	gweil@dom.wustl.edu
Dr. Graham White	University of Florida	Dept. Entomology & Nematology, University of Florida P.O.Box 110620, Gainesville, Florida 32611	grahambwhite@hotmail.com
Dr. Steven Ault	WHO/PAHO		aultstev@paho.org
Dr. Tenneth Dalipanda	Ministry of Health and Medical Services Chinatown	P.O. BOX 349 Honiara, Solomon Islands	tdalipanda@gmal.com
Dr. Onesime Ndayishimiye	Ministry of Health (Burundi) Rep.	Burundi	ndayones@yahoo.fr
Dr. Tomas Valdez	Ministry of Health (Cape Verde) Rep.	Cape Verde	tomasvaldez33@hotmail.com
Dr. Thierry Nyatanyi	Ministry of Health (Rwanda) Rep.	Rwanda	tiero2020@yahoo.com
Dr. Jude Gedeon	Ministrry of Health (Seychelles) Rep.	Seychelles	jGedeon@health.gov.sc

Invited but could not attend:
Dr. BT Slingsby, Eisai Co., Ltd.
Dr. Eva Christophel, WPRO
Dr. Anil Deelchand, Ministry of Health, Mauritius