

# **Report of the Twelfth Meeting of the WHO Strategic and Technical Advisory Group for Neglected Tropical Diseases**

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**Geneva, 29–30 April 2019**

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The twelfth meeting of the Strategic and Technical Advisory Group for Neglected Tropical Diseases (STAG-NTD) was held at WHO headquarters in Geneva, Switzerland, on 29–30 April 2019. The annex and list of participants are available from the STAG-NTD website ([https://www.who.int/neglected\\_diseases/events/twelfth\\_stag/en/](https://www.who.int/neglected_diseases/events/twelfth_stag/en/)).

## **Day 1**

### **1. Opening of the meeting and appointment of Chair and Rapporteur**

The meeting began as an open session, with STAG members, representatives of WHO regional offices and partners.

Dr Mwelecele Ntuli Malecela, Director WHO/NTD, opened the meeting and invited Mr Ashok Molloo, Information Officer, to describe the role of STAG-NTD. He said that it provided guidance to the NTD programme, which in turn reported on progress made globally, regionally and in countries in strategic and technical areas. At the current meeting, a report would also be made on the effects of WHO transformation on the programme and the role of STAG in the new WHO vision. The meeting would discuss the new NTD Roadmap for 2021–2030 and a request to the Secretariat to add a new NTD, fungal keratitis.

Dr Ren Minghui, WHO Assistant Director-General for Universal Health Coverage/Communicable and Noncommunicable Diseases, emphasized the importance of long-term commitment to the control of NTDs and associated care of patients, as part of UHC. He introduced the new Director of the NTD programme, who explained that the new Roadmap was being prepared in the context of WHO transformation and the 13th WHO General Programme of Work 2019–2023 (GPW13). The first phase of an online consultation had begun, and comments had been received from a diverse range of respondents.

STAG members were introduced by video, and the partners introduced themselves.

Dr Ren proposed that Professor David Mabey, London School of Hygiene & Tropical Medicine, be elected as Chair, and Dr Mabey proposed that Dr Margaret Gyapong be elected Rapporteur. Both proposals were seconded.

### **2. Highlights of progress, challenges and opportunities**

The Director noted that leadership at all levels and commitment, partnership and communication were essential to prevent, control, eliminate and eradicate NTDs. Five interventions were being used: preventive chemotherapy; innovative and intensified disease management, including an integrated skin-NTD approach; vector management; veterinary public health; and water, sanitation and hygiene (WASH). Common activities for the 20 NTDs were monitoring and evaluation, training and communication and information management. Work on NTDs was also aligned with the ambition to achieve UHC and in collaboration with other programmes, such as the safety of medicines, WASH and mental health. The revised WHO index of UHC would include effective coverage of preventive services for NTDs and gender equity and rights. The new Roadmap would include disease-specific targets and cross-cutting indicators. The Director described the functional alignment of the programme in the transformation of WHO and listed the programme's public health targets on a scale from eradication to elimination, elimination as a public health problem and control of different NTDs; and the disease-specific targets.

## 2.1 Diseases targeted for eradication

For **dracunculiasis**, 17 cases had been reported in Chad, 10 in South Sudan and 1 in Angola in 2018. The main problems were dogs infected with *Dracunculus medinensis*, notably in Chad, Ethiopia and Mali during 2018, and restricted access because of insecurity in a number of affected countries. Vector control and containment of infection would continue to be used to stop transmission. For **yaws**, six countries in the African and Western Pacific regions were preparing to start treatment with azithromycin in 2019, with 150 million tablets donated over 5 years. There would, however, be insufficient funding for treatment in other countries. Surveillance could be integrated into the skin-NTD approach and other mass mapping projects.

## 2.2 Diseases targeted for elimination

For **schistosomiasis**, treatment had been extended to 40 of 52 eligible countries in 2017. Updated normative guidance was either published or in preparation, and molluscicides had been tested in the laboratory and in the field. The difficulties were inadequate supplies of praziquantel and lack of a paediatric formulation, although there was continuous support from donors and partners. For **onchocerciasis**, treatment coverage had been > 70% in 2017, 1.8 million people were no longer at risk and more than 3 million lived in areas where preventive treatment had been provided. National elimination committees had been established and national plans updated, and the research community was developing better diagnostics and treatment strategies.

## 2.3 Diseases targeted for elimination as a public health problem

For **trachoma**, the number of patients requiring interventions had fallen from 1517 million in 2002 to 158 million in 2018, although there was a high incidence of post-operative trachomatous trichiasis. For **lymphatic filariasis**, 14 countries had met the validation criteria. Although care for patients was limited, the strategic plan for 2021–2030 would operationalize the new NTD Roadmap. The number of new cases of **human African trypanosomiasis (HAT)** had fallen dramatically in 2018 to < 1000. Despite limited access to several countries because of insecurity, the programme benefited from long-term medicine donations, and a new oral medicine was in the pipeline. For **visceral leishmaniasis**, large reductions in the numbers of cases had occurred in Bangladesh, India and Nepal. Limited data were available on epidemiology and treatment outcomes, but a large grant had been received from the United Kingdom Department for International Development. Progress had also been achieved in elimination of **Chagas disease** as a public health problem, with interruption of domiciliary vectoral transmission; case detection and follow-up should be strengthened. A vaccine against **rabies** had been provisionally approved by the GAVI, the Vaccine Alliance, and, although there was limited funding, post-exposure prophylaxis would be extended. Guidelines for the diagnosis, treatment and prevention of **leprosy** had been issued. Many countries had lost interest in the disease as the number of cases decreased, but Novartis had agreed to supply multi-drug therapy until at least 2020.

## 2.4 Diseases targeted for control

The number of cases of **dengue fever** in the Region of the Americas had halved between 2017 and 2018 after the outbreak of Zika virus disease; however, 128 countries were endemic for dengue, with 3.6 billion people at risk of infection and 50–100 million cases a year. New vector control tools, potential vaccines and an integrated, intersectoral approach were planned. For **chikungunya**, which had a global distribution affecting > 70 countries, diagnostics and a vaccine were in development, and long-term care for patients with debilitating effects could provide opportunities to integrate services. More than 155 000 cases of **cutaneous leishmaniasis** had been managed in 2017 despite lack of financial support and drug donations; emergency funds were being leveraged for eligible countries. A global control framework for **scabies and other ectoparasites** was in preparation, including draft strategic directions. Although there was little donor interest, a new paediatric formulation of ivermectin had become available. **Mycetoma, chromoblastomycosis and other deep mycoses** had been the subject of the “Khartoum call for action” in February 2019; there was nevertheless lack of funding and capacity. A new medicine, fosravuconazole, could improve the cure rate, compliance and costs, and studies were in progress. Improved combined therapy comprising an 8-week course of oral antibiotics had been recommended for **Buruli ulcer**. Although its mode of transmission was still unknown, detection and surveillance would be increased in the integrated skin-NTD approach. A strategic plan to control **snakebite envenoming** would be launched (Geneva, 23 May 2019), with a grant of US\$ 500 000 from the Lillian Lincoln Foundation, and interest had been shown by other partners. Currently, antivenoms were scarce, expensive and of poor quality, and countries had limited capacity for prevention and management. WHO planned to set up a pilot antivenom stockpile in sub-Saharan Africa in 2019. Coverage of treatment for **soil-transmitted helminthiasis** had increased to 69.5% by 2017, with > 600 million people treated. Morbidity had been eliminated in seven countries, and an additional 21 countries would have  $\geq$  75% coverage for 5 years. The challenges were resistance to drugs, no mass treatment in seven countries and lack of WASH. Provision in schools of subsidized ivermectin for strongyloidiasis could be a means of control.

The Director noted that mycetoma and some other diseases that Member States had requested for inclusion in the department’s portfolio were unfunded. Interest had been raised at the World Health Assembly by active groups, and the department was given a mandate through Health Assembly resolutions; however, work could not be delivered without funds.

STAG members commented that new donors might be found for diseases that were related to those already being addressed by the department, such as other ectoparasitic diseases. Nongovernmental organizations (NGOs) could sometimes obtain the necessary medicines, such as for visceral leishmaniasis. It was essential to maintain NTDs as priorities in the countries in which they occurred, and every opportunity should be taken to strengthen their political commitment, even in the context of disasters and other problems. In answer to a question about the introduction of some NTDs, such as leishmaniasis, into refugee camps, participants responded that the situation in large camps such as Gaziantep in Turkey was being monitored by the WHO Health Emergency department and the Regional Office for Europe, which had provided 20 000 ampoules of amphotericin B and training. The Turkish Government had strong medical and financial capacity and was providing treatment free of charge for all cases.

In answer to a question about collaboration with other programmes such as for mental health, HIV and family and maternal health, the Director said that collaboration with other programmes would be reinforced.

### **3. Regional highlights and best practices**

#### **3.1 Expanded Programme for Elimination of Neglected Diseases (ESPEN)**

Dr M. Rebollo Polo described progress made in control of NTDs in the African Region, reporting for each country the status of coverage with interventions and towards the elimination goals for schistosomiasis, STH, trachoma, lymphatic filariasis and onchocerciasis. She then described the initiative of the WHO Regional Office for Africa to integrate work on NTDs that required case management and those that required preventive chemotherapy. The goals of the Region were to eradicate dracunculiasis and yaws, eliminate HAT and leprosy as public health problems and control Buruli ulcer and leprosy. Mapping of onchocerciasis to verify elimination was the most urgent activity. Collaboration had been established with the WHO Health Emergencies programme to coordinate the response to dengue outbreaks in Member States, and further collaboration was sought on leishmaniasis, rabies and yaws. She outlined some best practices in the Region: joint assessment of the burden of Buruli ulcer, leprosy and yaws in nine countries; searches for cases of dracunculiasis and treatment in two countries; use of the district health information system in all Member States; two capacity-building workshops for national NTD programme officers and focal points in 41 WHO country offices; cross-border collaboration on Buruli ulcer, leprosy and yaws in two countries; and combination of elimination and surveillance of HAT with leprosy elimination in one country. Schistosomiasis was particularly difficult to eliminate in the Region, and extension of mass drug administration (MDA) to wider populations was being considered.

#### **3.2 WHO Regional Office for the Western Pacific**

Dr A. Yajima reported that at least one in 15 NTDs were endemic in 28 countries and areas in the Region. Significant progress had been made in elimination of lymphatic filariasis, schistosomiasis, trachoma and STH, and a more comprehensive approach would be adopted to tackle all the remaining NTDs. The goal of the new regional action framework, which had been endorsed by the Regional Committee in October 2018, was to achieve and sustain elimination of six diseases and control nine others. Four strategic pillars had been identified to achieve the goals and increase programmatic capacity and health system strengthening: coordinated multisectoral actions, enhancing interventions and service delivery, engaging and empowering communities and measuring impacts and generating evidence. She then described progress made for each disease, including control of other zoonotic and foodborne diseases with FAO and the OIE. The challenges included limited human resources for NTDs at regional and country levels and even in health ministries; competing public health priorities; geographical challenges, such as in the Pacific island countries; limited funding for NTDs that were not controlled by preventive chemotherapy; and instituting operational research.

#### **3.3 WHO Regional Office for the Eastern Mediterranean**

Dr M. Osman reported that the initial regional goals were eradication of dracunculiasis, elimination of schistosomiasis, and elimination of lymphatic filariasis and trachoma as public health problems. The Region's Vision 2030 was to eliminate at least one NTD in four countries. Other diseases had been added to the strategy, and a framework for action on cutaneous leishmaniasis had been agreed. She described progress made in controlling NTDs. Capacity-building was conducted in cooperation with other regions, academia and partners,

and coordination was assured among countries and programmes. Some targets were not being met due to conflict, population movements, cross-border issues, an increasing number of emergencies and issues of security and access; many countries also had weak drug procurement and logistics systems. A massive increase in the number of cases of leprosy had occurred in Somalia. Positive factors were regional mandates and targets for NTDs and the emphasis in GPW13 on UHC, including migrants, refugees and internally displaced people. Integration of work on NTDs amenable to preventive chemotherapy and skin-NTDs, better surveillance through the district health information system and score cards, a multisectoral approach including WASH and work with WHO collaborating centres on mycetoma, STH, leishmaniasis and onchocerciasis would facilitate the work of the Regional office.

### **3.4 WHO Regional Office for Europe**

Dr E. Gasimov reported that the NTDs of concern in the European Region were dengue, chikungunya, leishmaniasis and STH and two zoonotic diseases (rabies and echinococcosis). NTDs were being recorded in the Region only since 2000, and there were no dedicated NTD staff in country offices. The risk of vector-borne diseases, including West Nile fever, was also increasing, with the spread of *Aedes* mosquitoes, and a regional framework for surveillance and control of invasive mosquito vectors and vector-borne diseases had been adopted, with a training curriculum. Half the countries in the Region were endemic for visceral and cutaneous leishmaniasis, and disease and vector surveillance were being strengthened, with technical guidance. About 4 million people in the Region required preventive chemotherapy for STH. Information on prevalence was available from 22 countries, and country profiles were being established. Entomologists were being trained to map vectors. Zoonotic diseases were a new area, and the Regional Office was working with the European Centre for Disease Prevention and Control to meet the growing number of requests for assistance.

### **3.5 WHO Regional Office for South-East Asia**

Dr M. Jamsheed reported that some countries in the Region had high burdens of NTDs. The Regional Director had made NTDs one of her flagship programmes and had leveraged high-level political engagement and contacts; she made a point of celebrating successes. High coverage had been achieved with a combination of ivermectin, diethylcarbamazine citrate and albendazole to combat lymphatic filariasis in India, and a national multisectoral roadmap to eliminate schistosomiasis by 2025 had begun in Indonesia. Active case detection camps for leprosy had been established in India, with screening of millions of people, and leprosy satellite camps had been set up in Sri Lanka, with inter-faith engagement to reduce stigma and increase awareness and community mobilization. Maldives was using a “leprosy-free islands” approach.

In the discussion that followed the presentations, it was noted that onchocerciasis often occurred concurrently with epilepsy in children; NTD replied that studies were being conducted to establish causality. Another participant emphasized the importance of reporting data on cutaneous and visceral leishmaniasis separately.

With regard to leprosy, one speaker noted that the fact that the rate was twice as high in children as in adults was mainly due to the fact that funds were donated only for children. Another said that subnational data should be used in relation to achievement of the elimination target, as a national average would overlook the fact that there were hotspots in the country. Another asked whether “leprosy-free islands” would allow Maldives to move

from elimination to interruption of transmission. Dr Jamsheed replied that there were no criteria for elimination of leprosy, although one that had been proposed was a minimum of 10 years with no new cases. He reminded the meeting that Maldives had 189 inhabited islands.

One speaker noted that rabies is often misdiagnosed, especially when it affects the brain, resulting in huge underreporting. NTD replied that support was being built in countries and in the GAVI Alliance for research on diagnosis of rabies, for which surveillance was also often weak. The capacity of veterinary services should also be improved.

One STAG member commented that slums constituted almost half of the urban environment in Africa, providing ideal conditions for the spread of *A. aegypti* and all the diseases they carried. Epidemic preparedness in urban areas was therefore essential, particularly in Africa. Dr Rebollo Polo said that it was difficult to intervene in urban areas; however, the Regional Office for Africa had a strong emergency department, which was collaborating in work on preparedness. Another participant said that the West African Health Organization was consolidating gains in the control of dengue, and steady progress was being made. A STAG member proposed cross-sectoral action on vector-borne diseases with organizations such as UN Habitat. The Director commented that it could be difficult to intervene in urban slums. She agreed, however, that such settlements were the next frontier for hotspots of NTDs. Better diagnostics were also needed to identify outbreaks.

One participant commented on the difficulty of obtaining accurate data in many parts of the world, such as in certain states of Pakistan. All data were channelled through the Ministry of Health.

### **3.6 Special programmes and best practices**

Dr E. Cooreman, Team Leader, Global Leprosy Programme, said that that leprosy represented the largest number of new annual cases of all the NTDs, partly because of active case detection, which also resulted in earlier detection and less lasting disability. The disease occurred mainly in males. The main target at global level was to reduce the occurrence of grade-2 disability, which implied early detection and treatment. The programme had issued a number of guides and other documents, conducted training and monitoring missions, prepared a post-2020 strategy and were setting criteria for interruption of transmission. Vaccination with BCG should continue, new diagnostic methods should be found, and monitoring of adverse reactions to treatment would be initiated.

Dr Rebollo Polo, ESPEN, said that her organization was a public–private partnership among the governments of countries in Africa, WHO and partners, which provided preventive chemotherapy for five diseases: lymphatic filariasis, onchocerciasis, schistosomiasis, STH and trachoma. Its four objectives were to achieve 100% coverage, eliminate the five NTDs, strengthen information systems for evidence-based decision-making and improve effective use of donated medicines by supply chain management. An online portal provided information, maps, forms and other data, and data could be uploaded from a smart phone. The portal was also used by the programme review group to review and approve applications. A financial report was made available annually.

Dr Lee Ching Ng, UNITEDengue, an initiative of the Singapore Environmental Health Institute, reported that the 12 members of the group made uneven contributions to its goal, which was to build and strengthen regional capacity to monitor switches in the predominant virus serotypes and emergence of uncommon genotypes of dengue. Dengue was a real threat as *A. aegypti* spread with increasing urbanization. To reduce underreporting, one project

involved strengthening surveillance through sentinel sites in each country. Work would continue for other flaviviruses, if long-term funding could be found.

A statement by Ms Alice Cruz, the United Nations Special Rapporteur on the Elimination of Discrimination against Persons Affected by Leprosy and their Family Members, was read out. Leprosy had been associated with the violation of human rights for thousands of years, supported by religious and traditional beliefs, harmful cultural practices and misconceptions. Sufferers underwent violence and discrimination, which was institutionalized in more than 50 countries, including in health services, education and benefits. Early diagnosis and treatment could prevent the physical impairments that led to discrimination; however, stigmatization led to delays in seeking treatment and prevented patients from working and living normally. Ms Cruz' vision was based on three principles: intersectionality and affirmative action to ensure that patients lived normal lives; assessment of vulnerability and intersectoral action; and participation of patients and their families and organizations in decision-making. National and subnational awareness-raising programmes should be organized to provide accurate information about leprosy, and monitoring systems should be improved to provide disaggregated data for non-discriminatory policies and ensure high-quality care and rehabilitation.

Dr L. Castellanos, Regional Office for the Americas, described a 3-year project, conducted with the United States Centers for Disease Control and Prevention, on use of a multiplex bead assay of filter-paper blood spots for integrated surveillance of up to 100 communicable diseases through the antigen coats on beads. The assay could detect 10 NTDs. Pilot training projects had been conducted in Brazil, Mexico and Paraguay and also in Brazil, which had been extended to Guatemala and Guyana where national surveys had already been planned. The method had been shown to be cost-effective. Surveys had to be multisectoral and address several diseases with multiple objectives. The method could be used to establish the epidemiology of NTDs in a country, improve the quality of data, evaluate the impact of interventions, detect re-introduction or re-establishment of disease and identify people who were immunized by vaccination.

In answer to a question about the danger that triple-dose rifampicin for leprosy could select for resistance, Dr Cooreman said that the risk was minimal if it was taken only once. He agreed with another speaker that countries in which hotspots of the disease remained should be differentiated from those where no further work needed. Another member commented that prevalence figures were useful for spurring governments to action. Dr Cooreman replied that efficacy and contact tracing constituted useful additional information. One partner said that data on children should be broken down further for research and development of strategies, as the group "< 15 years" was too vague. She noted that malnutrition, HIV infection and other conditions often affected patients with leprosy.

#### **4. Feedback from STAG working groups**

Dr P. Mbabazi and Dr B. Abela-Ridder presented updates on the working groups established by STAG to perform specific functions and support certain aspects of work, with broad application to all NTDs and in alignment with Organization-wide goals. The working group on monitoring and evaluation had been meeting for 10 years and had had some influence on the "culture" of the field. Its work included monitoring of drug efficacy. It was recommended that it continue beyond NTDs amenable to preventive chemotherapy, as its work was essential to initiating integrated management.

The working group on zoonotic NTDs was receiving support for a review of a global strategic plan against rabies, of the WHO laboratory manual and of minimum indicators for disease programmes and Roadmap targets. Baseline mapping of porcine cysticercosis, human cysticercosis and taeniasis was being conducted in Rwanda, and support was provided for modelling taeniasis, echinococcosis and rabies. The working group on snakebite envenoming was separate from that on zoonotic NTDs. Created in 2017, its role had been to prepare a WHO strategy for prevention and control, which had been completed. A new working group would be required to support the work of the Secretariat.

## **5. Roadmap targets for 2030**

Dr G. Biswas, Dr Abela-Ridder and Dr Mbabazi made a presentation on the Roadmap for NTDs to 2030. A web consultation had been set up, and a modelling consortium had analysed the initial feedback. The consultation would close in August, when STAG would finalize the goals and milestones before submission to the Executive Board; a resolution would be tabled for the World Health Assembly in 2020. The goals were to ensure that: 65 countries had eliminated at least one NTD by 2023 and, by 2030, about 90% fewer people required interventions against NTDs, 100% of the population at risk was protected against out-of-pocket health payments due to NTDs, a 60% decrease in the incidence of vector-borne NTD cases, 75% fewer deaths due to vector-borne NTDs and 100% access to at least basic WASH in endemic areas. Indicators had been developed to determine achievement of those goals. Each disease also had at least one global target. Feedback had been received so far from 68 respondents in a variety of sectors, although it was to be hoped that there would be more input from governments and the private sector. When the consultation was complete, the comments would be categorized by disease, theme and ambition, and a report would be submitted to STAG. The cross-cutting themes that emerged were that the targets were reasonable but could be clarified, there was overemphasis on NTDs amenable to preventive chemotherapy, clear proposals should be made for ensuring country ownership, interventions should cover the entire value chain, and new cross-disease approaches were critical. Input from the NTD modelling consortium and others had provided insight into the technical and operational feasibility of the 2030 targets, the actions required to achieve the targets and measuring progress and potential risks and uncertainties.

The publication could consist of about 30 pages covering predominately cross-cutting themes and strategies with further details in annexes. It would start with the context and purpose, a summary of targets and milestones, and the Roadmap, with a theory of change strategy, cross-cutting approaches, technical progress in addressing NTDs and the operating model. Theory of change would be used to achieve the ambitious targets, with cross-cutting and disease-specific progress supported by a sound operating model and culture. Cross-cutting approaches could change vertical disease silos to platform-based approaches in the context of universal health coverage; measurement of technical progress would change the approach from process to impact; and the operating model and culture would change determination of NTD priorities and programmes by external stakeholders, with donor funding, to countries integrating NTDs into health sector planning and budgeting and contributing domestic financing.

In the ensuing discussion, it was emphasized that the document would serve mainly for policy and advocacy. An investment case might be included. Dr Biswas asked how detailed the Roadmap should be. The team had aimed for high-level guidance, which could lead to further documents. Additional information on, for example, malnutrition, HIV infection and WASH indicators could be supplied by the relevant departments. Others commented that

WASH was underfunded in most countries, and data collection, infrastructure and maintenance were concerns. Advocacy, coordination and joint planning between the NTD and WASH programmes were essential globally and at country level.

One member noted a parallel with vector control, in which it was also important to break down silos. That could be achieved through committees at the highest government level involving various departments and NGOs; regional committees could be set up for diseases that had only regional spread. Integration between vector control and WASH would be necessary for dengue, as climate change would require more water storage sites. Elimination strategies for many diseases should include activities against intermediate hosts, as in global vector control. Countries should be stimulated to act immediately. Another member noted that the NTD programme was under pressure from politicians to add new diseases to its mandate, for which inexpensive drugs had to be found and the vector identified, whereas those activities were the responsibility of other programmes.

One partner reminded the meeting that the Roadmap would be valid for 10 years. Although the NTD team had a growing mandate within the broader health system, it should remain focused, with clear, measurable targets. Diseases for which there was no strategy should be identified, and interventions should be classified as community- or health centre-based. Cross-sectoral collaboration was required to design essential packages for UHC, without losing sight of NTDs, life-course approaches and gender and rights, which could be adapted by countries. The Director said that the programme was giving guidance to regions and countries on delivery of programmes for 20 diseases, and the collaboration with regional offices was essential. She welcomed advice on how the plan could be translated into action in countries, which were already working across sectors. An observer added that communities must be engaged in plans in order to reach marginalized sectors of society

Dr Biswas, responding to a question about the difference between the NTD targets and those of the SDGs, said that targets had been modelled for each disease, including those that would require treatment after 2030. Another speaker said that the target for WASH was consistent with the SDGs, but the ambition should be raised to accelerate its introduction, especially in endemic areas.

In response to a query about the elements of theory of change in the Roadmap – the start, the processes to be used to meet the goals for 2020 or 2030 and collaborations, Dr Mbabazi said that multisectoral engagement and an overall monitoring and evaluation framework would accompany the new Roadmap. Another participant said that it would be useful to review the current roadmap to determine how it had been used, its greatest value and its efficacy. He added that theory of change was a key piece of the document, which would allow each actor to find how (and whether) their work fitted into the theory.

## **6. Statements by stakeholders, observers and other WHO departments**

Dr J. Waltz, Head, Praziquantel Donation Programme and Global Schistosomiasis Alliance, Group Corporate Affairs, Merck, said the company had been providing praziquantel since 2008 and had committed itself to donating 250 million tablets per year until elimination of schistosomiasis. As a result, the prevalence of and morbidity from the disease had decreased, although tens of millions of children still required treatment. A new paediatric formulation had been produced.

Dr A. Solomon read a statement on behalf of Global Water 2020. Sustainable elimination, eradication and control of NTDs would require significant investment in WASH. The current

NTD strategy undervalued prevention to the benefit of treatment, whereas equal weight should be given to WASH and it should be a priority in the 2021–2030 Roadmap.

Dr K. Owen, Bill & Melinda Gates Foundation, commented that the targets of the Roadmap 2020–2030 appeared to be realistic, and she welcomed the use of modelling, the emphasis on country voices and the rigorous process. The monitoring and evaluation programme would ensure achievement of measurable, realistic, specific, time-bound goals. The Roadmap also placed NTDs in the context of much larger problems, and she committed her organization to continue to fund the programme.

Ms E. Wainwright, United States Agency for International Development, expressed appreciation for the relations of her agency with WHO headquarters and regional offices. The public health goals of the Roadmap should include mainstreaming or integrating NTDs into national education curricula and other areas and benchmark progress in integration of work on NTDs into planning and service delivery, while ensuring programme quality and keeping patients at the centre of morbidity management. The shift in approach from humanitarian aid to country ownership and use of domestic resources would benefit the poorest of the poor.

Ms L. Westcott, Department for International Development, United Kingdom, described a new programme involving 25 countries in Africa and South-East Asia, which would bring together previous programmes to ensure sustainable health systems in cross-sectoral arrangements. The aim was to make the best use of resources through coordination and learning from successes to ensure sustainability. She suggested that the UN high-level meeting on UHC (New York, USA, September 2019) would clarify the place of NTDs.

Ms E. Agler, the END Fund, said that her organization was based on private capital. It had started in 2012 with US\$ 25 million from about 20 main donors and there were now hundreds. The main goal was to increase access to treatment until elimination was achieved. The goals of the Roadmap must be clear and understandable by the public. Country ownership should be based on a collective plan. She agreed that the Roadmap should be used mainly for advocacy and welcomed the proposed investment case, and should state clearly what was required for NTDs; WASH and vector control, which should be provided through joint planning and coordination. The lower cost of NTD interventions had attracted funders.

Dr M. Bradley, GlaxoSmithKline, said that he was pleased to continue work with the NTD team at headquarters and in country offices. His company's engagement had begun with albendazole in 1997, when it had made a commitment to the global community to eliminate lymphatic filariasis. It was generally recognized that donations were not a global solution, but a stimulus; nevertheless, massive investment was continuing, to which all industry partners were committed. Country ownership was important, as it gave them responsibility for programmes and for use of products in the most responsible way.

Mr S. Taga, speaking on behalf of Professor K. Ichimori, Japanese Alliance for NTDs, said that the Alliance comprised both individuals and organizations. Its aim was to increase the visibility of Japanese activities in NTDs and to ensure that they were suitable for their targets.

Dr N. Strub-Wourgaft, Medical Director, Drugs for Neglected Diseases *initiative* (DNDi), said that WHO prequalification of fexinidazole as the first oral treatment for HAT had been achieved in record time, showing the efficiency of solid partnerships. She expressed support for WHO work to facilitate prequalification of drugs for leishmaniasis and mycetoma. Trials by her organization had also shown that a shorter, safer benznidazole regimen reduced the prevalence of severe cardiac insufficiency in Chagas disease, although better treatment was still required. Point-of-care diagnostic tools and treatments were needed for other NTDs.

Maintaining donors' interest would be critical to reaching the Roadmap goals, and all parties should stress the role of eradication of NTDs in UHC.

She added that the Réseau Francophone sur les Maladies Tropicales Négligées (RFMTN) brought together industry and NGOs in an integrated diagnostic approach for research and development plus access and availability through local manufacturers. New diagnostic technologies were sought, including for zoonotic diseases and cryptic reservoirs, with involvement of social scientists to act against stigma. Further research is required to address the challenges of achieving and sustaining elimination.

Mr G. Warne, International Federation of Anti-Leprosy Associations, said that networks, scientific organizations and academia had invigorated work against leprosy. Country models, reviews, online best practices and country-owned projects were essential on the path to zero leprosy. He supported the 2030 target of genuine eradication, with zero transmission, disease, disability and stigma, not only of the dermal form but also of neurological disease. The approach must be person-centred and based on the numbers at risk.

Dr W. Harrison, Schistosomiasis Control Initiative, on behalf of the Global Schistosomiasis Alliance, commented that the new Roadmap would mobilize political will and resources, place NTDs at the heart of the global development agenda and effectively link NTDs with the SDGs, health systems strengthening and delivery of UHC. Dramatic progress had been made in schistosomiasis control, although further operational research on factors that influence the decisions of programme managers would lead to more effective sharing of "preferred practices". The Initiative supported the proposal to interrupt transmission in selected countries as an interim and complementary goal and had proposed further sub-targets and indicators for various approaches to treatment, diagnosis and the treatment of effects, such as female genital schistosomiasis (FGS).

Dr P. Downs, Sightsavers welcomed the setting up of working groups to address the outstanding goals. His organization would continue working towards the achievement of UHC through integrated NTD work with countries and partners. He noted that the current roadmap had been effective, although there were still complex challenges.

Dr U.D. Madeja, Bayer Pharma, said that the company would continue to produce products for as long as they were necessary. He recalled that the partnership with WHO had begun in 2000 for HAT and Chagas disease. In 2013, the company had gone beyond donating medicines, to providing mobile intervention teams for education, awareness-raising, training and integration of programmes into the national health system in the Democratic Republic of the Congo. DNDi has been working for many years on the development of a product against onchocerciasis that would kill the adult worm, whose lifespan in the human body can last for up to 17 years. They continued to donate praziquantel and niclosamide, and provision of drugs for other diseases was being discussed with WHO.

Dr N. Roy, Ministry of Health and Family Welfare, India, said that her country had a large burden of NTDs. With regard to lymphatic filariasis, 92% of the target had been met, which should be sustained and contained. Triple-drug therapy with ivermectin, diethylcarbamazine citrate and albendazole had been launched in four districts in order to forecast the amount of ivermectin required. The elements of programmes must be coordinated to achieve targets.

Ms Emer Cooke, WHO Essential Medicines department, said that her programme ensured access to medicines by placing them on the Essential Medicines List. More than 10 NTD products had been added to the List at the recent annual meeting. Her department was now responsible for prequalification of vector control products and also snakebite antivenoms, with the support of a joint technical officer. Side-events were organized at annual company

meetings to explain the benefits of prequalification, and seven new NTD products would be prequalified in 2019.

Ms K. Medlicott, WHO department of Public Health, Environment and Social Determinants, said that there was good cross-sectoral collaboration among WHO departments, including water and sanitation, to ensure coordination and advocacy of WASH. She suggested that the SDGs on sanitation could be used in the NTD Roadmap. The theme of the annual “water day” and “toilet day” had been that no one should be left behind.

## **Day 2**

### **7. Requests for addition of NTDs**

The Director commented that new diseases were being added to the department’s mandate each year. Organizations and governments appeared to consider that, once an NTD had been added, it would receive more attention; if an NTD was the topic of a World Health Assembly resolution, the department was obliged to report on progress to Member States, even if there was no funding and therefore no activities could be conducted. At least four additional NTDs were being added. For mycetoma, chromoblastomycosis and other deep mycoses (which was the topic of a Health Assembly resolution) and for scabies and other ectoparasites, no additional funding had been provided at the time of the resolution; for snakebite envenoming, there was some funding and some interest to pledge funds during the launch of the strategy in May 2019. Consideration of any additional diseases must be accompanied by a funded mandate.

Dr Biswas recalled that, in January 2016, the Executive Board at its 138th session had requested STAG to develop a “systematic, technically driven process for the adoption of additional diseases as NTDs”. In response, the STAG at its 10th meeting in 2016 had proposed four criteria for classifying a condition as an NTD: (i) a disease that disproportionately affected populations living in poverty and that caused important morbidity and mortality, including stigmatization and discrimination, justifying a global response; (ii) diseases that affected populations living in tropical and subtropical areas; (iii) diseases that were amenable to broad control, elimination or eradication by application of one or more of five public health interventions (preventive chemotherapy and transmission control, innovative and intensified disease management, vector ecology and management, neglected zoonotic diseases and water, sanitation and hygiene; and (iv) diseases that were relatively neglected in research. In the process requested by the Executive Board, Member States submitted requests to their WHO country office (although, in reality, requests were made by interested parties), accompanied by documented evidence for review by the NTD department. The department then presented the dossiers to STAG, which decided whether the disease should be categorized as A or B. Regions had lists of regionally important NTDs. The list of NTDs was reviewed every 3–5 years.

In answer to a query about categories A and B, he said that only mycetoma, chromoblastomycosis and other deep mycoses were in category B, which indicated that more advocacy and guidance were required for control; no intervention was available that could be scaled up, and more research should be conducted.

The Chair said that a request had been received for inclusion of fungal keratitis on the list of NTDs for the department’s work. Regional representatives reported either mixed or no responses from countries; some had noted, however, that the burden was unknown. In the African Region, more than one country had made the request, but it had not been made directly to WHO headquarters and not through the country or regional offices. One

representative said that regional offices should also seek more information, through systematic reviews and other documentation.

Several members suggested that fungal keratitis be classified in category B, not for immediate control, as proof of principle was required to demonstrate the efficacy of control. The Director replied that, if it was included at all, research or meetings would have to be organized by the NTD department, which would mean that funds would have to be diverted from other activities. Dr Biswas added that addition of a new disease set a precedent, for example for the group to which it belonged, as in the case of snakebite envenoming, which opened the NTD categories to non-infectious diseases. The decision might be deferred until letters of support for the country recommendation were received. One member suggested that another criterion for submission be added, adapted to the constraints of the department.

Mr Moloo recalled that, in 2011, the department had been asked by the Director-General to create a list of “other conditions” that resulted in disability, which could be used by the relevant departments. Campaigns were then mounted in the press, however, that WHO was neglecting certain diseases. The inclusion of mycetoma, chromoblastomycosis and other deep mycoses had been the result of an elaborate media campaign targeting WHO.

In answer to a comment from the Chair that category B indicated that WHO had no responsibility to eliminate, eradicate or control the disease, Dr Biswas said that WHO was responsible for all diseases. The NTD list comprised only diseases that could be addressed by the department on the basis of its expertise and the need; otherwise, it would not be possible to meet expectations. He commented that the department nevertheless responded to outbreaks of NTDs that were not on the list, such as chikungunya virus disease. Another staff member said that even giving guidance to researchers cost time and money, and, for scabies and other ectoparasites, the funds had had to be found by reprogramming and use of small donations.

Dr Salahuddin commented that diseases on the list that were visible and dramatic attracted more attention, while other widespread diseases such as brucellosis and leptospirosis, with high levels of morbidity and mortality, were difficult to diagnose and less visible and received inadequate funding. One member commented that the department might draw up a list of diseases for which more research is required, perhaps during a meeting for that purpose.

The Director noted that the newly created public health division of WHO and its Chief Scientist (Dr Soumya Swaminathan) would provide a platform from which to promote research on public health priorities and strengthen health research capacity in countries.

## **8. Preliminary results of the evaluation of the NTD programme**

Dr Elil Renganathan, Director-General’s Office for Evaluation, said that WHO had commissioned a private company to evaluate the NTD programme, and a draft report was available.

Mr Brian McKay, TDV Global Co., a professional management consulting firm in Canada, said that a formative evaluation had been conducted to ensure operationalization of the NTD strategy. It had been based on documented successes, challenges and gaps during 2014–2015 and 2016–2017. Professor Nilanthi de Silva, a former STAG chair, had been one of the five members of the team. The evaluation took place in September–October 2018, and data were collected in November–December and analysed in January 2019. The method included document review, interviews by phone and at visits to five regional offices, case studies of lymphatic filariasis, schistosomiasis, STH and leishmaniasis in Congo, Egypt, India, Peru and

the Philippines and online surveys in English, French and Spanish. Both internal (WHO) and external stakeholders were included. Most replies were received from WHO country offices.

The questions addressed how relevant the programme was for increasing and sustaining access to essential medicines and controlling NTDs; whether the programme had increased and sustained access to medicines and interventions for NTDs; the efficiency of the programme in delivering its outputs for the costs incurred and whether it could have contributed more effectively; the extent of collaboration with other organizations; use of evidence-based guidelines in implementation and monitoring of interventions; achievement of targets; and the main factors that facilitated and hindered the achievement of targets.

The conclusions were that the Roadmap and the programme were consistent with Member States' needs; however, internal and external partnership should be established or strengthened, and the programme should consider paying additional attention to diseases that were not amenable to MDA. The programme was effective in raising awareness of NTDs through its various stakeholders, including Member States, donors, pharmaceutical companies and NGOs. There had nevertheless been uneven progress. The leishmaniasis case study illustrated the complexity of a disease that required multiple strategies, including integrated disease management, case management, vector control and WASH. With regard to efficiency, attempts appear to have been made to ensure cost–efficiency, such as integration of MDA for several diseases. Inefficiencies in programme management included lack of integration among diseases, concurrent global meetings, uncoordinated responses to donor demands and inadequate coordination with other WHO programmes. MDA should be balanced with long-term results, and the new Roadmap should include plans for sustainability, be aligned with UHC (including ensuring equity), outline approaches to integration among diseases where appropriate and define the roles of various partners, include the “neglected of the neglected” diseases. The Programme should seek ways to find funding other than from donors, which currently constituted 85% of its budget, as that could challenge its autonomy. With regard to equity, the consensus of both internal and external interviewees was that the work of the programme addressed the needs of vulnerable populations, as NTDs were diseases of the poor. Those that are sometimes inadequately covered, however, were rural and remote populations, those in conflict zones and internally displaced people. Monitoring could be improved to ensure that all vulnerable populations were reached.

The recommendations were for:

- an updated Roadmap, as well as “London Declaration-type” document to maintain the momentum for NTDs;
- broadening of the focus to include integrated disease management, WASH, vector control and zoonosis control with clear, achievable strategies;
- integration of the 20 NTDs, with links to the GPW 13, UHC, health systems strengthening and the SDGs, and integrated guidelines for planning and implementation, ensuring that staffing was aligned and that donors were encouraged to take an integrated approach to NTDs; and
- management of the list of NTDs to ensure adequate resources.

Furthermore, a stronger, integrated programme management function would be important to ensure efficiency, moving from coordination to collaboration and integration of NTDs, and sustainability. There might be a formal mechanism to ensure intersectoral collaboration and integration of the WHO Secretariat, including WASH, surgery and mental health, and research, through a clear research partnership with TDR. The Secretariat should conduct a stakeholder analysis and develop strategies for external engagement to harmonize the way in

which different elements of the programme engaged stakeholders. The programme should use a logic model and a specific performance measurement framework to provide data for decision-making. NTD surveillance in countries would become more important as they moved towards elimination, and the programme should work with partners and countries to strengthen their NTD surveillance systems. The programme should set clear conditions for sustainability, such as for domestic institutionalization and drug procurement.

The overall conclusion had been that the NTD programme was successful but should not become complacent. Its successes included validation of elimination of trachoma in four countries and of lymphatic filariasis in 11 countries and certification of yaws eradication in one country. Political commitment, strategic advocacy and realistic timelines and targets were essential for success. The group had also concluded that the purpose of STAG should be clarified.

Dr Renganathan said that the final report would be available in the next few weeks.

One member proposed that the programme focus on only four or five diseases, with tools adapted to the populations concerned. Another commented that programmes were sustainable only if they were supported by champions. Countries must learn how to sustain their successes.

## **9. Review of the terms of reference of STAG and its working groups**

The Director said that STAG currently had five working groups, on: (i) monitoring and evaluation (active); (ii) neglected zoonotic diseases (active); (iii) access to quality-assured medicines (dissolved); (iv) investment for impact (active); and (v) capacity-building (inactive); and two active technical groups that also reported to STAG: the Vector Control Advisory Group and the Technical Working Group on Dengue and *Aedes* Control. She noted that the working groups are intended to be “broad, flexible and agile” in order to offer strategic direction and advice, including advocacy, whereas the technical groups had more detailed remits. The working groups reported to STAG, whereas the technical working groups reported to the Director, who reported to STAG. A departmental diagnostics plan was being prepared, with target product profiles to follow.

The following working groups and technical working groups were agreed upon after discussion:

- working group on monitoring, evaluation and research (all NTDs, including those in integrated disease management);
- working group on access to quality-assured medicines and safety;
- working group on strategic dialogue and investment for impact;
- working group on UHC, cross-cutting activities and multisectoral action;
- working group on neglected zoonotic diseases;
- technical working group on gender, equity and rights;
- technical working group on capacity-building;
- technical working group on dengue and arbovirus control;
- technical working group on diagnostics (including surveillance); and
- the Vector Control Advisory Group.

The Director said that the multiplex system described earlier would be addressed by the technical working group on diagnostics, and the group with cross-cutting activities would include WASH. Primary health care and health systems strengthening would be covered in

the many aspects of NTD work that were conducted through health systems. Surveillance was included in monitoring and evaluation. One regional representative emphasized the importance of including other arboviral diseases in the mandate of the technical working group on dengue control, and the Director reported that foodborne trematodes and *Aedes*-borne arboviruses might also be mandated to the NTD department.

One NTD staff member said that the working group on monitoring and evaluation provided what countries and programmes needed, and its role should be extended to cover all NTDs. Technical working groups could help to change a culture, facilitate organizational transformation and break down silos. Another cautioned that too many working groups could have a serious effect on staff and funding.

One member said that gender, equity and rights were becoming more important as nonprofessional women played more important roles in NTD control. Strategies should be found to emphasize the role of women's groups.

## 10. Review of progress towards 2020

Dr Paul Cantey, WHO/NTD, introduced the item and invited technical focal points to describe progress and priorities for 2019–2020 for diseases targeted for eradication, elimination, elimination as a public health problem and control. Diseases with unfunded mandates and/or no progress would not be discussed. For each disease a slide was presented showing provisional “flags” to reflect progress towards targets contemplated by the current Roadmap for countries in which the least progress had been made (red), some progress had been achieved (yellow) and those that had achieved major programme end-points (green). The colour-coded flags were designed to allow rapid assessment of the general progress of each programme at country level, with poorly performing programmes shown to the left of the slide and with progression to the high-performing programmes on the right of the slide. In most cases, progression was from red to green.

The diseases targeted for eradication were dracunculiasis and yaws. Four countries were still endemic for dracunculiasis, and vector control would be intensified; two were at precertification stage, and one required verification; 16 formerly endemic countries had been certified as free of the disease. The priorities for 2019–2020 were to complete certification in two countries, revise the criteria for certification and offer a cash reward for reporting cases globally. For yaws, 17 countries were endemic, one was conducting MDA, six were planning MDA, with funding available, one was under post-MDA surveillance and one had been certified as free of yaws. The priorities for 2019–2020 were to implement MDA in six countries, conduct verification in countries in the WHO regions of the Americas and South-East Asia and integrate detection and surveillance of yaws into work on other skin NTDs.

Onchocerciasis was targeted for elimination. Six countries had not yet started MDA, five had started MDA, 18 were conducting MDA in all endemic implementation units, five had been able to stop MDA in at least one focus, and elimination of transmission had been verified in four countries. The priorities for 2019–2020 were to stop evaluations, develop a mapping strategy for both onchocerciasis and loiasis and improve diagnostic capacity.

Eight NTDs were targeted for elimination as a public health problem. Two countries had not achieved domiciliary transmission of Chagas disease in any first administrative division, 10 had active domiciliary transmission due to sylvatic cycles, seven had interrupted domiciliary transmission by the triatome vector, *Trypanosoma cruzi*, and seven had interrupted domiciliary transmission. Two countries had achieved moderate, 11 countries intermediate and 27 countries advanced interruption of transmission from transfusion of blood and blood

products. The priorities for 2019–2020 were to increase case detection and follow-up and to monitor and verify achievements.

For HAT, nine countries had made no progress, 17 had achieved elimination as a public health problem but had inadequate surveillance, 10 had achieved the goal and were ready to submit a dossier for validation, and one had submitted its dossier. The priorities for 2019–2020 were to reinforce control and surveillance, initiate validation in five countries and coordinate stakeholders.

With regard to the goal of eliminating grade-2 disability due to leprosy as a public health problem, the rate was > 10 per million in four countries, > 5–10 per million in 15 countries, 1–5 cases per million in 32 countries, < 1 per million in 24 countries and 0 among new cases in 32 countries. The priorities for 2019–2020 were to trace contacts and provide chemoprophylaxis, conduct mapping, provide a template for preparing a dossier and treat disabilities; however, the programme was unfunded.

For lymphatic filariasis, MDA had not begun in three countries, was under way but not at scale in 12 countries and was conducted in all epidemic implementation units in 35 countries. Post-MDA surveillance was being conducted in eight countries and post-validation surveillance in 14 countries. The priorities for 2019–2020 were to report on morbidity management and disability prevention, scaling up MDA, scaling up ivermectin plus diethylcarbamazine (citrate) plus albendazole, conducting transmission assessment surveys and surveillance.

Between 2018 and 2020, 18 countries would have begun a programme to eliminate rabies as a public health problem; 52 countries would scale up the programme between 2021 and 2025, and 19 countries would be conducting “mop-up” activities between 2025 and 2030. A large animal vaccination programme would be required, in addition to awareness-raising and human bite management. The priorities for 2019–2020 were to country engagement and biological forecasting, scaling up of pilot projects to programmes and integrating data and surveillance; however, the programme was unfunded.

The status of nine countries requiring preventive chemotherapy for schistosomiasis was unknown, and MDA had not started in two. MDA had started but was either not to scale or irregular in 16 countries, while 34 countries had extended MDA to all endemic implementing units. Seventeen countries required evaluation to verify interruption of transmission. The priorities for 2019–2020 were publication of new guidelines, of operational manuals on mapping and impact assessment and of a manual on surveys for verification of interruption of the transmission.

For trachoma, the status of nine countries was unknown, the SAFE strategy (surgery for trichiasis, antibiotics, facial cleanliness and environmental improvement) had not begun in four, was at < 100% geographical coverage in 23 and at 100% coverage in 11. Surveillance was being conducted in nine countries that claimed to have eliminated the disease, and elimination as a public health problem had been validated in eight countries. The priorities for 2019–2020 were to continue scaling up the intervention, validate the claims of more countries and improve the outcomes of patients with trichiasis.

Visceral leishmaniasis was still a public health problem in Bangladesh, India and Nepal. It was projected that none of the countries would have validation of elimination. In 2018, elimination had not been achieved in 19/636 implementation units, and, in Nepal, one district had been above the threshold in 2017 and 32 districts reported non-endemic cases in 2018. Elimination had been claimed to have been achieved in Bangladesh, but there had been no validation, and 29 non-endemic subdistricts had reported cases. India did not have a single,

national electronic surveillance system. In the past 5 years, 22 190 ampoules of amphotericin B had been donated to Bangladesh, 221 360 to India and 13 100 to Nepal for a total cost of US\$ 58 340 000. The priorities for 2019–2020 were to ascertain endemicity in the sub-districts of Bangladesh and Nepal that had reported cases and to accelerate control activities in India.

Nine diseases were targeted for control. For Buruli ulcer, 16 countries had previously reported cases, 16 reported regularly to WHO, significant morbidity was reported in 12 countries, while four countries had fewer cases of severe morbidity. The priorities for 2019–2020 were to focus on countries in which there was significant morbidity and to integrate detection and surveillance with that of other skin NTDs. In 2015, 70% of cases of cutaneous leishmaniasis had been detected and  $\geq 90\%$  treated; however, none of the countries in the Eastern Mediterranean Region had conducted an assessment, and none had adhered to the “framework for action” for 2014–2018. No funds and no interest were evinced for conducting assessments, and there were no funds to procure the drugs, which would cost US\$ 2–5 million for five countries. The priorities for 2019–2020 were to advocate for domestic and external funding for treatment, surveillance and monitoring and evaluation.

For dengue, 45 countries in the African, eastern Mediterranean and European regions were prone to epidemics but had no control programme; 80 countries endemic for dengue in the other three had programmes. Thirty countries in Asia, Australia, Europe and North America were free of dengue but prone to outbreaks, and  $> 20$  countries in temperate zones were free of dengue. The priorities for 2019–2020 were to establish surveillance of dengue and other arboviruses in Africa, issue new guidelines on prevention and control and evaluate new vector control methods and vaccines.

With regard to cystic echinococcosis, 21 countries had not initiated activities, two were mapping endemic areas, pilot projects were under way in four countries, one had achieved regional control, and two had intensified control. Mapping of areas endemic for alveolar echinococcosis was being conducted in Europe and in eight other countries, and one country, China, had intensified control. The priorities for 2019–2020 were to provide guidance and training in early diagnosis and management, conduct mapping and improve interventions in animals and diagnostics.

Foodborne trematodes caused fascioliasis, clonorchiasis, ophistorchiasis and paragonimiasis. The priorities for 2019–2020 were to engage other sectors, model strategies and map hyperendemic areas. Scabies and other ectoparasites would be addressed by case management and MDA. The priorities for 2019–2020 were to publish the report of an informal WHO consultation on control of scabies, conduct operational research on components of the strategy, conduct pilot-testing of MDA and seek funding. A programme to control snakebite envenoming would be tested in 12 countries in 2019–2020, extended to 40 countries in 2021–2024 and rolled out in 80 countries in 2025–2030. The priorities for 2019–2020 were to launch a Roadmap, engage stakeholders, secure resources, stockpile antivenom and assess Asian antivenoms, find means to engage communities and health workers and build a strong investment case.

Preventive chemotherapy for STH had not begun in seven countries and had begun in 28 countries. Greater than 75% coverage had been achieved for  $< 5$  years in 40 countries and for  $> 5$  years in 21 countries. Elimination of morbidity from this cause had been verified in seven countries. The priorities for 2019–2020 were to prepare for treatment of women of reproductive age and for control of strongyloidiasis, perhaps with the addition of ivermectin, and to establish a network of laboratories to identify resistance to the drugs. Control of taeniasis and neurocysticercosis had not started in most countries, whereas mapping of

endemic areas was being conducted in nine countries, government pilot projects were under way in two countries and pilot projects in a further five. The priorities for 2019–2020 were to plan projects with countries, conduct mapping, use the donation, improve diagnostics and involve the agricultural health and food safety sectors.

The Global Vector Control Response 2017–2030 had been adopted by the regional committees, and national and regional plans had been developed in all the regions except for the Western Pacific. The need for vector control had been assessed in Europe and in some countries in the Eastern Mediterranean and Western Pacific regions. Data were being collected in countries, and collaboration was assured by the WHO Joint Action Group; an expert advisory group would be established, and a conference was planned later in the year. The priorities for 2019–2020 were to assess the need for vector control in 10 countries and initiate vector surveillance in all regions, as it was not yet conducted in Europe.

STAG members and regional representatives proposed a number of amendments to the progress charts. Some commented on the problem of resistance to some of the drugs used, and they were informed that laboratories were being identified for molecular testing of samples. One regional representative recommended that countries be congratulated publicly when they made progress. Many of the “red flags” for endemicity or no interventions indicated lack of political commitment and other factors beyond the department’s control. NTD staff said that strategic dialogue should be conducted with countries to increase political commitment and provide guidance for validation and verification.

## **11. Review of 2030 targets, goals and milestones and theory of change**

Dr Abela-Ridder introduced the item, emphasizing that the Roadmap was the responsibility of STAG. The document proposed strategic shifts to ensure change at country level, through cross-cutting approaches, operating and cultural models and technical progress for all NTDs. STAG was invited to comment on the appropriateness of the three pillars. The Director envisaged an integrated approach by intervention type while retaining individual disease targets. The Roadmap targets should be ambitious but realistic, and the indicators should be clear and measurable.

STAG members commented that the goals should be expressed as simply as possible, and means to reach targets should be included, rather than simply stating the targets. They also stressed the importance of including issues such as housing, water supplies and sanitation and noted that 100% basic sanitation was one of the SDGs. An observer commented that surveillance data were not available for diseases that were not reportable, and countries should be sensitized to the importance of mandated reporting of certain diseases.

Several members commented that the goal of eradicating yaws by 2030 was over-ambitious in view of the reservoir, drug resistance and lack of funding. It should be re-stated as elimination as a public health problem in certain countries. Another commented that the goal for dengue was also unrealistic and might be re-stated as managing outbreaks more effectively. A member added that the goal for visceral leishmaniasis was also too ambitious.

One member pointed out that monitoring and evaluation were not included in the theory of change, which should be made more understandable. Another agreed with the groupings and the broad areas and proposed that a graph be included to plot the direction of the Roadmap, as given in the presentation by the external evaluation team. In a discussion of how feedback and engagement could be obtained from the global community, regional and country offices were urged to use their networks, and STAG members were asked to visit countries. The Director asked whether NTD staff could attend regional meetings.

## **12. Recommendations**

Recognizing the mandate of the NTD Department in the context of Organizational transformation, the vision of the Sustainable Development Goals and the ambition to achieve universal health coverage, as articulated in WHO's 13th General Programme of Work 2019–2023, the twelfth meeting of the STAG-NTD considered as follows:

### **Towards the new Roadmap 2021–2030**

1. Recommends that the new Roadmap should contain measurable targets, identify roles and responsibilities at sub-national, national, regional and global levels, and be regarded as instrumental to achieving universal health coverage. The Roadmap should include multisectoral engagement and an overall monitoring and evaluation framework.

### **NTDs in refugees, internally displaced people and in conflict zones**

2. Notes with concern that some NTDs are emerging in settlements for refugees and internally displaced people and in conflict zones, and recommends that the situation be closely monitored. Access to conflict areas should be ensured, especially with regard to NTDs targeted for eradication and elimination. The Department should stand ready to provide technical support as required in these settings.

### **Cross-sectoral collaboration**

3. Recommends that the current collaboration with other programmes, such as vector control, WASH, environmental health, mental health, HIV and family and maternal health, be continued and reinforced at all three levels of WHO. Coordination with other WHO departments should be strengthened in the area of data sharing and analysis (e.g. through integrated health information systems), in order to reduce duplication and foster advocacy, coordination and joint planning globally and at country level.
4. Recommends the Department to collaborate as appropriate, within and outside the Organization, to monitor reduced efficacy to NTD medicines and insecticides and prevent and address any possible emergence of resistance.
5. Recommends further support to, and investment in, programmes on zoonotic NTDs and the One Health approach, and stronger collaboration with appropriate partners.
6. Recommends that equity, gender and human rights be included in all NTD activities, particularly with regard to women. Women are disproportionately affected by NTDs such as female genital schistosomiasis and trachoma, and also play a vital role in many NTD activities. The role of women and women's groups in public health interventions should be reflected in NTD strategies.

### **Normative guidance**

7. Recommends the Department to prepare guidance on the identification and monitoring of epidemiological hotspots and areas of residual transmission of NTDs, and to adjust control strategies as appropriate to respond to the challenges faced by programmes that aim to interrupt transmission of NTDs.

8. Recommends that strategic dialogues be convened and technical guidance provided to countries in which no or limited progress in NTD control, elimination and eradication is being made.

### **Surveillance and health system strengthening**

9. Emphasizes the importance of strengthening surveillance and recommends inclusion of NTDs in health management information and disease reporting systems in order to adequately generate and report data, thus allowing quantification and monitoring of the burden of NTDs and an appropriate deployment of interventions.

### **Inclusion of additional NTDs**

10. Notes with concern the increasing number of diseases proposed for inclusion in the NTD portfolio that are unaccompanied by funded mandates. Resource mobilization, research and advocacy should be encouraged for any condition proposed for inclusion, especially for those that lack adequate information on epidemiology and burden. Criteria for inclusion of category B diseases should be reformulated to reflect this need. The STAG has designated a Task force to review this.

### **Working groups**

11. Recommends the establishment of 10 working groups to accelerate work in respective areas of activities:
  - STAG: monitoring, evaluation and research (+ IDM);
  - STAG: access to quality-assured medicines (and safety);
  - STAG: strategic dialogue and investment;
  - STAG: UHC, cross-cutting issues (e.g. WASH, relation to the Sustainable Development Goals) and multisectoral action (including health system strengthening and community engagement and participation);
  - STAG: zoonoses;
  - Technical Working Groups that report to Director, WHO/NTD: gender equity and rights; capacity-building; dengue and arbovirus control; and diagnostics; and
  - Vector Control Advisory Group.

### **Communication**

12. The STAG commends the Department on the great work it is doing and recommends that the Department seize every opportunity to disseminate information about the impact of NTD interventions and their success globally, regionally, nationally and sub-nationally.

### **13. Dates of the next meeting and closure**

The STAG agreed to an extraordinary closed meeting to be held in Geneva on Monday 26 August 2019.

After the customary exchange of courtesies, the meeting was closed.