Fourteenth meeting of the Strategic and Technical Advisory Group for Neglected Tropical Diseases

22–24 June 2021
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## Abbreviations and acronyms

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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ASCEND</td>
<td>Accelerating Sustainable Control and Elimination of Neglected Tropical Diseases programme (United Kingdom)</td>
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<td>DNDi</td>
<td>Drugs for Neglected Diseases initiative</td>
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<td>DTAG</td>
<td>Diagnostic Technical Advisory Group</td>
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<td>ESPEN</td>
<td>Expanded Special Project for Elimination of Neglected Tropical Diseases</td>
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<td>FBT</td>
<td>foodborne trematodiases</td>
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<td>FCDO</td>
<td>Foreign, Commonwealth and Development Office (United Kingdom)</td>
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<td>GVCR</td>
<td>Global Vector Control Response</td>
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<td>HAT</td>
<td>human African trypanosomiasis</td>
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<tr>
<td>IDA</td>
<td>ivermectin, diethylcarbamazine citrate and albendazole</td>
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<td>IU</td>
<td>implementation unit</td>
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<tr>
<td>LF</td>
<td>lymphatic filariasis</td>
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<tr>
<td>M&amp;E</td>
<td>monitoring and evaluation</td>
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<tr>
<td>MDA</td>
<td>mass drug administration</td>
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<tr>
<td>NTD</td>
<td>neglected tropical disease</td>
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<td>PAHO</td>
<td>Pan American Health Organization</td>
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<td>STAG</td>
<td>Strategic and Technical Advisory Group</td>
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<tr>
<td>STH</td>
<td>soil-transmitted helminthiases</td>
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<td>TPP</td>
<td>target product profile</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>VL</td>
<td>visceral leishmaniasis</td>
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<tr>
<td>WASH</td>
<td>water, sanitation and hygiene</td>
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<td>WHO</td>
<td>World Health Organization</td>
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The fourteenth meeting of the Strategic and Technical Advisory Group for Neglected Tropical Diseases (STAG-NTD) was held virtually on 22–24 June 2021. The agenda is attached as Annex 1 and the list of participants as Annex 2.

1. Opening of the meeting

On welcoming the participants to the meeting, Dr Ren Minghui, Assistant Director-General, Universal Health Coverage/Communicable and Noncommunicable Diseases, highlighted that the entire world had been affected by COVID-19 and had suffered social disruption, including NTD communities. In discussing the new NTD road map for 2021–2030 (“the road map”) (1) and the way forward, the strategy would be adjusted and aligned in case of need. He wished everyone successful deliberations.

2. Administrative matters, including revised terms of reference of STAG; appointment of rapporteurs

The Chairperson, Professor David Mabey, in mentioning the revised terms of reference for STAG, said that the main change was to focus on the new road map and provide independent evaluation towards achieving the challenges and milestones. It was agreed that the road map was excellent. Professor Mabey confirmed that Professor Margaret Gyapong would continue as Rapporteur, supported by Dr Nina Mattock.

3. Year in review

The year was reviewed by video.

In 2019, for the fifth consecutive year, more than one billion people had been treated. Five countries had been validated for eliminating one disease, including Gambia for trachoma (2021); and Togo (2020) and Côte d’Ivoire (2021) for human African trypanosomiasis (HAT). The lowest number ever – 876 – cases of gambiense HAT had been reported. Some 95% of implementation units (IUs) in the South-East Asia Region had eliminated visceral leishmaniasis (VL) as a public health problem.

In 2020, only 27 human cases of dracunculiasis had been reported, with 5 to date in 2021 (4 in Chad and 1 in Ethiopia); animal infections continued to be addressed. There had been progressive uptake by countries of the Global vector control response 2017–2030 (2); WHO guidance on aircraft disinsection had been updated, and arbovirus surveillance in West Africa completed. A One Health approach was the focus of a number of initiatives: a United Against Rabies Forum had been launched to achieve zero human deaths from dog-mediated rabies by 2030; and GAVI, the Vaccine Alliance, would support human rabies vaccines for post-exposure prophylaxis. Donations had been secured for medicines for improved control of taeniasis and cysticercosis. Four guidance documents had been published on mitigating the impact of COVID-19 on NTDs, and WHO had worked with countries, programmes and implementing partners on adapting field interventions to the new pandemic context. In the year under review, nine road map-related webinars had been completed within 6 months.

The latest Pulse survey (3) had shown continued pandemic-related disruption to NTD health services, particularly on preventive chemotherapy campaigns and other community-based activities. Mobile applications were being used to facilitate diagnosis of skin NTDs.
Development and validation of new diagnostics were being stimulated through the Diagnostic Technical Advisory Group (DTAG). New biomarkers and specific tests were being identified to support decisions on stopping mass drug administration (MDA). A foundation for post-validation surveillance of lymphatic filariasis (LF) was being created. In the year under review, 16 memoranda of understanding had been signed for donated medicines and health products valued at US$ 70 million; 2.7 billion tablets had been supplied and the medicines donated to 119 countries; in addition, half a million diagnostic tests for 23 countries had been procured. The second World Chagas Disease Day had been observed on 14 April. Also in 2020, 241 media enquiries, 48 web releases, 82 published documents and 36 scientific articles had been managed. All 20 NTD websites had been migrated to Sitefinity and were being evaluated. The NTD department was committed to offering the best possible guidance and support to Member States and the global community in progressing towards the milestones and targets set by the road map and in overcoming the challenges presented by COVID-19.

4. Director’s report

Dr Mwelecele Ntuli Malecela, Director, Department of Control of Neglected Tropical Diseases, highlighted the tremendous progress that had been made during the year. Two issues had affected the NTD programme: the early exit of the Accelerating Sustainable Control and Elimination of Neglected Tropical Diseases (ASCEND) programme\(^1\) and the COVID-19 pandemic. The NTD community had, however, shown great resilience and support in making diagnostics, medicines and documents available. She thanked STAG for their continued guidance and support.

4.1 Partnership and advocacy

The road map was launched on 28 January 2021, having been endorsed by the World Health Assembly on 13 November 2020 through decision WHA73(33)\(^4\). On 31 May 2021, the Assembly adopted decision WHA74(18)\(^5\) to recognize World NTD Day each year on 30 January. Overarching targets for 2030 included eradication of two NTDs (dracunculiasis and yaws) and 100 countries having eliminated at least one NTD; cross-cutting targets included 40 countries having implemented integrated skin NTD strategies, and 100% access to at least basic water supply and sanitation.

Agreements with, and donations from, pharmaceutical companies made possible multiple activities. In 2020, a new memorandum of understanding had been signed with Novartis, to extend the donation of multidrug therapy\(^2\) until 2025. Praziquantel, niclosamide and nifurtimox would be donated by Bayer, and benznidazole by Insud Pharma (for treatment of foodborne trematodiases (FBTs), \(T. solium\) taeniasis, and paediatric and congenital Chagas disease, respectively).

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1. The FCDO ASCEND programme supported LF, dracunculiasis and VL activities, and the Expanded Special Project for Elimination of Neglected Tropical Diseases, and control and elimination efforts for up to five NTDs in West and Central Africa.

2. Rifampicin, clofazimine, dapsone. The donation includes clofazimine for treatment of reactions and medicines for flukes.
4.2 Progress since the thirteenth meeting

In 2019, 1.74 billion people had required interventions against NTDs (a reduction from 2.19 billion in 2010), and more than 1.16 billion people had benefited from at least one NTD intervention.

In 2019, a total of 105 countries required preventive chemotherapy for five diseases: LF, onchocerciasis, soil-transmitted helminthiases (STH), schistosomiasis and trachoma; a total of 1155 million people had received the corresponding intervention, covering 66.3% of the total number of people (1743 million) requiring preventive chemotherapy.

Since 2010, 43 countries had eliminated (or eliminated as a public health problem) at least one NTD. Eight countries had achieved elimination as a public health problem: for rabies in Mexico; LF in Kiribati, Yemen and Malawi; HAT in Côte d’Ivoire and Togo; and trachoma in the Gambia and Myanmar.

Eradication activities

• Dracunculiasis: only 5 human cases had been reported to date in 2021 (4 in Chad and 1 in Ethiopia), a reduction of 79% compared with January-April 2020; seven countries remained to be certified. The challenges came with infected dogs, although tethering and larviciding had resulted in an 83% reduction in Chad, where 136 infected dogs had been reported in the first four months of 2021.
• Yaws: while a lot of work remained to be done in the African and the Western Pacific regions, there had been great achievements in several countries (Cameroon, Central African Republic, Congo, Papua New Guinea, Solomon Islands, Vanuatu) despite the COVID-19 pandemic, and about 10 million azithromycin tablets had been delivered.

Elimination activities

• Onchocerciasis: diagnostic target product profiles (TPPs) had been published to support preventive chemotherapy. In addition, an elimination mapping manual and toolkit on integrated evaluation for onchocerciasis and LF had been produced for programme managers.
• HAT: 663 cases had been reported in 2020 (98 rhodesiense HAT) – a historic reduction, despite disruption of surveillance activities due to COVID-19. Two countries (Côte d’Ivoire and Togo) had been validated for elimination as a public health problem), and five countries (Benin, Equatorial Guinea, Ghana, Rwanda, Uganda) had submitted dossiers for consideration. New treatment guidelines were in use in six countries. Challenges included progressive integration of HAT control and surveillance into peripheral health services, and access to screening and diagnostic tools.
• LF: 649 million people no longer required MDA through the triple drug approach; 14 countries were currently implementing MDA with ivermectin, diethylcarbamazine citrate and albendazole (IDA), and three countries were expected to submit elimination dossiers by the end of 2021.
• Trachoma: despite COVID-19, in 2020, more than 42 000 people globally were operated on for trachomatous trichiasis (92 000 in 2019), and more than 32 million people received antibiotics (92 million in 2019).
• Schistosomiasis: new guidelines had been approved focusing on treatment of all at-risk groups and verification of interruption of transmission.
• STH: there had been agreement on expanding the use of mebendazole to women of reproductive age, and to a focus on baseline and impact assessment data. Challenges
included a reduction in albendazole donations from 400 million to 200 million doses (to take place in 2022).

• VL: the disease burden had fallen by more than 90% in the South-East Asia Region since the elimination initiative had begun in 2005, and only 2% of IUs had not yet reached the elimination threshold; but, in East Africa, the challenges due to COVID-19 and the cuts in funding from the United Kingdom’s Foreign, Commonwealth and Development Office (FCDO) had been particularly felt. The disease had emerged in new areas (Chad, Nepal), and there was a lack of sustained funding for health products, while the new in vitro device regulations in the European Union meant that production of rK39-based rapid diagnostic tests widely used in East Africa had been discontinued; production of sodium stibogluconate (Pentostam) had been discontinued in 2019.

• Chagas disease: progress had been made with regard to advocacy (World Chagas Disease Day), availability of diagnostics and medicines, and development of tools, platforms and networks for monitoring disease control activities and their impact. A five-year programme to eliminate congenital Chagas disease had been endorsed by heads of state and government of Ibero-American countries; Brazil had been the first country in the world to approve the compulsory declaration of chronic Chagas disease cases in addition to acute cases.

• Leprosy (Hansen’s disease): guidelines for treatment and prevention had been developed in 2018, including management of reactions and disability prevention, contact tracing and data collection; e-learning modules had been produced. Post-2020, the global leprosy strategy included scaling up of prevention alongside case detection, preventing new disability and ensuring human rights.

Cross-cutting activities

• Skin NTDs presented potential areas for integration (epidemiological, training, management, research, social mobilization, etc.), with many of them being co-endemic. Of the 12 NTDs with skin manifestations, the main ones were Buruli ulcer, yaws, leprosy, scabies, LF and mycetoma. In a skin survey in children in Benin and Côte d’Ivoire, skin NTDs represented only 10% of all skin diseases (others included tinea capitis, pityriasis versicolor and eczema), so there was need to engage with other areas of skin health in multisectoral action.

• Buruli ulcer: a rapid diagnostic test had been developed by the Foundation for Innovative New Diagnostics and the Swiss Tropical and Public Health Institute; a new treatment (telacebec) was under evaluation, for which orphan drug designation had been granted by the United States Food and Drug Administration.

• Scabies: the designation of the first WHO collaborating centre for this disease was being finalized (Murdoch Children’s Research Institute, University of Melbourne, Australia), and an online training course with Open WHO was expected to be released soon; a Global Alliance for Scabies had been launched.

• Global vector control response implementation: plans for integrated vector management in all six WHO regions (in accordance with resolution WHA70.16 (6)) would ensure that more countries were working on vector control. Needs assessment had indicated a lack of trained entomologists as a major issue. Normative guidance had been developed including integrated vector management strategies, aircraft disinsection and pesticide management.

• Dengue and other arboviral diseases: major outbreaks of dengue had been reported in 35 countries, and a global arbovirus strategy was under development. Cross-cutting activities included arbovirus surveillance, which had been completed in 43 African
countries. An arbovirus working group had been established under the International Health Regulations.

- Veterinary public health and snakebite envenoming: highlights included training in countries on indicators and reporting for rabies, snakebite envenoming, taeniasis, echinococcosis and FBTs in district health information system/preventive chemotherapy format. Neurocysticercosis management guidelines and a taeniasis mapping tool had been initiated, and donations of praziquantel and niclosamide for *Taenia solium* and FBTs successfully negotiated. Snakebite envenoming data and an information platform would soon be launched, and an advisory group for TPPs for snake antivenom products for sub-Saharan Africa had been constituted (with DNDi).

- DTAG: almost 100 people were now giving their time and expertise to the group’s activities. Six disease-specific subgroups had helped develop TPPs for LF (for stopping MDA and surveillance), onchocerciasis (for mapping and stopping MDA), STH (for monitoring and evaluation [M&E]), schistosomiasis (for M&E and surveillance), HAT (for a test for rhodesiense HAT useable in peripheral health facilities) and for skin NTDs – Buruli ulcer, cutaneous leishmaniasis (CL), leprosy, mycetoma, scabies and yaws (in preparation). Cross-cutting groups had also been established, on surveillance platforms (e.g. for verifying elimination); clinical diagnosis, imaging and microscopy; and manufacturing and regulatory pathways.

- Access to medicines and products: a STAG working group on access to safe, efficacious and quality-assured health products for NTDs was proceeding; a call for nominations had been published.

- Improving safety in administering medicines for NTDs: a manual entitled “Safety in administering medicines for neglected tropical diseases” was in press; this comprised five modules including safe management of medicines, pharmacovigilance, recognizing and reporting severe adverse events, and rumour management.

- Skin NTDs mobile App: the App was now available in four languages; the next steps would include development of versions 2, 3 and 4, and large-scale testing.

- NTD courses through Open WHO: three courses on NTDs had been developed to date (on NTDs and COVID-19 in English, French and Spanish; on podoconiosis; and on tungiasis), in which more than 11 000 people had enrolled. A course on scabies would soon be available, and several others dedicated to skin NTDs. More NTD online courses would be available by the end of the year.

- NTD informatics: to strengthen informatics on NTDs and to help ensure that data could also be used at country level, data sources from all three levels of WHO were available.

### 4.3 NTDs and COVID-19

COVID-19 had had a profound impact on NTD activities, causing severe disruption and delays to public health programmes including mass treatment campaigns and other community-based activities, monitoring and evaluation, and delivery of medicines. Its impact had been experienced also at the clinical level, with case reports of false-positive dengue serology in patients with COVID-19, complicated NTD cases possibly being at higher risk of developing severe COVID-19, and with suspended disease control interventions (e.g. mass treatment or

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3 The manual is now published online: [https://apps.who.int/iris/bitstream/handle/10665/344059/9789240024144-eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/344059/9789240024144-eng.pdf)
surveillance) expected to trigger a rebound in transmission of some diseases. These were all likely to affect 2030 targets unless remedial strategies were deployed. The Pulse survey questionnaire on essential health services during COVID-19 had indicated that the predominant disruptions were to large-scale preventive chemotherapy campaigns, community awareness/health education, and to support for self-care, rehabilitation and psychosocial services for patients with chronic NTDs. NTDs were the second most disrupted services after mental health.

WHO’s response to NTDs during COVID-19 had included normative, leadership and operational responses, including guidance on how to safely restart programmes and community work.

The challenges brought about by COVID-19 included withdrawal of funding (FCDO) for specific programmes, and renewal of funding from the United States Agency for International Development (USAID). Despite the effect on WHO/NTD staff and workplans, teleworking continued, but there was a delay in recruitment of staff and in planned activities.

The NTD department had become the lead department in an anti-racism initiative. Since the last meeting, representatives from each department in the Division had formed an affinity group called RacismNo, and a working group had been constituted.

4.4 Discussion

Questions were raised about the stringency of European Union requirements for diagnostics, which made it less worthwhile for a manufacturer to continue to make diagnostics for VL; WHO would take up the issue. In East Africa and Latin America, where the VL situation was more dire than in South-East Asia, challenges were presented particularly by delivery and compliance issues. WHO would investigate enhanced intervention and innovative strategies for VL and establish a special group for East Africa.

A point raised about bednets was that some of the more recently manufactured nets were not useful in killing mosquitoes. However, WHO had already begun to interact with manufacturers to ensure that the quality of insecticide treated nets was maintained.

Regarding rabies, WHO activities had stalled on this disease although the numbers of cases were on the rise in some countries e.g. Pakistan. WHO was continuing to look for support to meet financial and capacity needs, particularly in regard to dog vaccination programmes.

Progress had however been particularly impressive with trachoma, despite the ongoing COVID-19 pandemic especially considering that most activities required face-to-face activities e.g. for examining patients. This progress had been achieved through provision of personal protective equipment to teams, including trialled and field-tested face shields, and distributing tablets using a "cup on a long pole". While fewer trachoma surveys were carried out than in 2019, activities had been maintained as much as possible.

Access to data was lacking in most countries. There was need for better linkages between country focal points and WHO; WHO would endeavour to improve ways of ensuring that people knew more about what data were available and how to access and use them for planning.
Another question related to mobile populations, and movement of people from endemic into non-endemic areas. With regard to echinococcosis, a disease for which work was unfunded in WHO, there was a need to restart the programme. While there had been some momentum in the Western Pacific Region, with the validation of test kits, funding had not been secured. Progress was slow, particularly on zoonotic and other non-epidemic diseases, and cross-border movement was an issue everywhere, but this was not only a health problem. Another example was that of Chagas disease, which was not endemic in Europe, but people from endemic areas carried the parasites to Europe, where they could be found in donated blood.

In reply to a question about M&E of MDA, it was explained that training on reporting adverse events was provided to all who delivered MDA.

5. Progress reports from the Regions

5.1 Region of the Americas

Dr Santiago Nicholls reported on some achievements made during the year.

- Leishmaniasis: an atlas, a review of the American cutaneous disease, and treatment recommendations had been produced.
- Public health entomology: surveillance and control, particularly of Aedes aegypti, had been strengthened by production of papers impregnated with insecticide; a technical toolbox and a virtual self-learning course had been developed to guide decision-making for vector control interventions, as well as a document on external evaluation for elimination of Chagas disease.
- Chagas disease: some progress had been made in eliminating domestic transmission, in interrupting transmission, in diagnosis and treatment in the national health systems, and in screening of universal blood bank donors.
- Trachoma: there had been some progress on baseline mapping and integrated surveys in Peru, Venezuela and Guatemala and, in the latter country, on operating/surgeries of trachomatous trichiasis cases such that this country was now a candidate for elimination.
- Tungiasis: highly affected communities had been reported in Brazil and Colombia, where some progress had been made on access to safe medicines; establishing a road map had begun, and an online course for health workers.
- Yaws: epidemiological information had been updated in Ecuador for completing the dossier, and serological surveys had been undertaken in some countries.
- Lymphatic filariasis: in Guyana, coverage with MDA-IDA was estimated to have exceeded 70% in a total target population of 680,143, with up to 97% coverage in one region (thus above the minimum threshold of 65%).
- Other publications: one on chronic care of neglected infectious diseases, and one on preventive chemotherapy for control of Taenia solium.

Activities to protect communities and community health workers, e.g. during MDA campaigns, population-based surveys, and active search for cases, had been limited by COVID-19. The ban on travel had directly impacted provision of technical cooperation, e.g. national strategies for control of vector-borne diseases, and in consequence insecticide resistance had expanded. Actions taken by the PAHO Neglected Infectious Diseases programme included setting up webinars and conference calls, while continuing to support countries with, among other things, drug donations.
Besides postponement of activities due to COVID-19, other challenges were due to lack of funding (trachoma, yaws), lack of surgery (trachoma), lack of diagnostic tools to confirm interruption and of prioritization (yaws), and lack of data on distribution and ecological scenarios (tungiasis).

Questioned about dengue and the effect of COVID-19 on its incidence: cases in the Americas had dropped during the pandemic but this might have been due to a reduction in surveys, and numbers were expected to rebound. Regarding the One Health approach, the Pan American Health Organization (PAHO) was developing a comprehensive strategy on zoonotic diseases, which would be discussed at the next STAG meeting in September.

5.2 Eastern Mediterranean Region

Dr Supriya Warusavithana said that, of the 22 Member States in this Region, all were affected by at least one NTD, and two thirds of the countries were affected by natural or man-made emergencies.

In 2019, more than 222,000 cases of CL had been reported. There was lack of funding and support for control; the Region carried 80% of global CL burden, and 25% of global VL burden. Leprosy was re-emerging in some countries due to conflict and humanitarian emergencies; in 2020, so far 13 countries had reported more than 3000 cases of leprosy, and data collection was ongoing. Three countries had been validated for eliminating trachoma as a public health problem, while six countries needed interventions for elimination. Onchocerciasis was prevalent in two countries, and MDA had been conducted with good effective coverage targeting elimination. LF had been validated as eliminated as a public health problem in two countries. Sudan was yet to be certified for eradication of dracunculiasis.

2020 had been a difficult year. Despite this, several countries had conducted MDA reaching a population of nearly 8.0 million, but there had been a significant reduction in population coverage; in 2021, so far MDA had been administered to 2.7 million people, and planned in five countries. With the travel restrictions during 2020–2021, capacity-building activities had been conducted virtually; this also included clinical management training for health staff on case management for CL and VL.

Review of the NTD programme during 2012–2019 showed a 38% decline in the number of people requiring interventions. Based on burden, two countries required priority public health action for 5 or 6 NTDs, eleven countries needed priority public health action for CL, five countries for rabies and trachoma, and VL was on the increase in four countries. While there had been increasing coverage of preventive chemotherapy, there had been increasing incidence of leishmaniasis and reported cases of leprosy. Access to safe water was a persistent issue. Country consultations were currently being conducted to finalize the five-year (2021–2025) regional framework to accelerate implementation of the new road map. This would be submitted to the Regional Committee in October 2021 for its endorsement. In February 2021, the first integrated and virtual programme managers’ and the nineteenth Regional Programme Review Group meeting had been held in the Region.

In the discussion, the risk posed by migrant and refugee populations developing NTDs was raised as one of the biggest challenges in the Region. Member states and WHO country offices were trying to coordinate the partners, mainly United Nations agencies (e.g. UNHCR, IOM) and international nongovernmental organizations (e.g. MSF, ICRC), which were providing
services to these populations to ensure preventive chemotherapy and case management. But the situations in some countries were very challenging.

5.3 European Region

Dr Elkhan Gasimov said that, in the past year, key issues had included dengue, chikungunya and other arboviruses, leishmaniasis, STH, vector surveillance/control, rabies, echinococcosis and leprosy.

The leprosy burden was not high – a total of 30 new cases had been reported in 2019, of which more than 71% were imported cases; it was proposed to improve surveillance and capacity in three countries, and ensure translation of WHO guidelines/manuals on leprosy into Russian. Leishmaniasis was not a notifiable disease in EU so it was difficult to obtain data and there had been a lot of discussion with the European Centre for Disease Prevention and Control on this issue; in 2020 ECDC initiated a project “Review on leishmaniasis in the European Union, the Enlargement countries and the European Neighbourhood Policy countries”. Conclusions were that the leishmaniases were widespread or emerging in the European Union, were neglected and underreported, so there was a clear need to strengthen prevention and control. Regarding vector control, a needs assessments had been conducted in several countries, and discussions were ongoing with others; a training curriculum on vector surveillance and control for entomologists working in the public health sector was to be developed and several training courses would be held in collaboration with the National Institute for Public Health and the Environment of the Ministry of Health, Welfare and Sport of the Government of the Netherlands. Four million school-age children needed treatment for STH. However, COVID-19 had impacted a number of activities, that had to be postponed.

In discussion, a disconnect was mentioned concerning supply of leprosy drugs. While drugs had been supplied by WHO for several patients in Germany, there was the need to report on the patients before the medication could be supplied.

5.4 South-East Asia Region

Dr Zaw Lin said that by 2019, one country was yaws-free, three countries had eliminated LF as a public health problem, one country (Nepal in 2018) had eliminated trachoma as a public health problem, and new case detection rates of leprosy had shown a steady and slow decline between 2010 and 2019.

In 2020:
- Trachoma had been eliminated as a public health problem in Myanmar.
- LF-MDA had been affected by COVID-19; many IUs had stopped activities during peaks of COVID-19 and later resumed, although 66% of endemic districts had already met the criteria for stopping MDA.
- A significant reduction in VL, and VL deaths, in 2005–2020 had occurred.
- India was now free of yaws, and only two countries were known to be endemic in the Region (Indonesia and Timor-Leste). In Timor-Leste, there had been only one confirmed case, and in Indonesia, where cases were mostly in the eastern part of the country, 130 cases had been confirmed in 2020 compared with 5928 confirmed cases in 2012. Total community treatment had begun in 2015, and a regional consultation on yaws eradication had been held in 2021.
Other activities during the year had included technical discussion with Regional Programme Review Group-LF experts on the impact of changes in the Brugia rapid test, and meetings with national programme managers on LF, STH and schistosomiasis, and with the Regional Programme Review Group. E-learning modules on LF-morbidity management and disability prevention, and documents on snakebite prevention, controlling NTDs in the Region, and a strategy for VL elimination were in progress and the Dengue Bulletin had been published.

A significant achievement would soon be that of Bangladesh, where dossier development for elimination of LF as a public health problem was near completion; while for VL, the number of cases had been maintained below the threshold in all upazilas for three successive years by the end of 2020.

Currently under discussion was to include all the skin diseases on one platform. Rabies was a regional issue, also currently under discussion.

5.5 Western Pacific Region

Dr Aya Yajima said that the four strategic pillars of the regional action framework guiding priorities to achieve NTD elimination and control were:

- Catalysing and coordinating multisectoral actions among partners: including regional managers meetings, support for countries to develop LF elimination plans, a strategic plan for rabies, control of parasitic zoonoses.
- Enhancing interventions and service delivery: in 2020–2021, 15 countries had implemented treatment for NTDs (LF, STH, schistosomiasis, trachoma, yaws) and conducted LF transmission assessment surveys; integrated training modules for skin NTD diagnosis (yaws, scabies, leprosy, LF morbidity, Buruli ulcer) were developed; and the capacity of primary health care workers was strengthened.
- Engaging and empowering communities in scaling up programmes e.g. WASH-NTD for elimination of schistosomiasis, in preventing and controlling dengue, and in integrating rabies education in primary and secondary school curricula.
- Measuring impacts and generating evidence, such as from: activities in schistosomiasis (e.g. validating performance of enzyme-linked immunosorbent assays), taeniasis/cysticercosis (e.g. disease risk mapping), rabies (data reporting), yaws and scabies (e.g. strengthening of surveillance), and from integrated surveillance.

Regional priorities for 2021–2022 included elimination and control activities for LF (e.g. MDA with triple [IDA] therapy), trachoma (Vanuatu dossier validation), skin NTDs (e.g. integrated skin NTD training), schistosomiasis (e.g. developing an elimination surveillance framework), rabies (e.g. using rapid response toolkit), STH (e.g. reviewing Expanded Programme on Immunization data), other zoonotic NTDs (e.g. MDA for FBTs) and dengue (recruiting new entomologists), as well as continued production of the semi-annual NTD newsletter.

5.6 African Region

ESPEN report on NTDs amenable to preventive chemotherapy

Dr Pauline Mwinzi said that the Expanded Special Project for Elimination of Neglected Tropical Diseases (ESPEN) focused on five NTDs (schistosomiasis, onchocerciasis, LF, STH and trachoma), and worked closely with implementing partners from both public and private
sectors, providing technical and operational support to countries while the pharmaceutical sector donated drugs. Priorities included scaling up of MDA (to achieve 100% geographical coverage), scaling down of MDA (towards elimination of NTDs suitable for preventive chemotherapy), strengthening information systems, promoting effective use of donated medicines, and advancing progress through country ownership and strengthening of health systems.

Africa carried over 99% of the global onchocerciasis burden, but several foci in several countries had met WHO guidelines and had now stopped treatment. Africa carried over 39.5% of the global LF burden, in 32 countries; Malawi had been validated free of LF in 2020. Africa carried over 92% of the global schistosomiasis burden, in 41 countries; despite significant progress over the years, the target was yet to be achieved (lack of praziquantel). Africa carried close to 50% of the global STH burden; preventive chemotherapy was needed in 44 countries. Africa carried 85% of the global burden of trachoma, in 27 endemic countries; two had eliminated this disease as a public health problem (Ghana and Gambia), while 58% of the Region’s burden (50% of global burden) was in Ethiopia.

Dr Mwinzi said that decision-making was supported by the ESPEN data portal. In the past year, enhancements had been made to the Joint Application Package tool; these included improvements in the submission and validation of data, disease maps related to WASH, and disease-specific dashboards. A visualization tool for IU level forecasting of MDA and M&E was also in progress. In 2018–2020, 39 surveys had been supported, and in the past one year, more than 60 surveys had been planned on onchocerciasis, LF, schistosomiasis and STH. New data from the field were automatically updated on the dashboard. With its increased analytical capabilities, there was a lot of use of ESPEN data, and not only from Africa, while NTD programmes were better informed and supply chain management allowed efficient use of medicines – permitting tracking of quantities of donated medicines (albendazole, praziquantel, mebendazole, diethylcarbamazine citrate) and expiry dates.

Other activities of ESPEN included strengthening of the laboratory in Ouagadougou, where the focus was now expanding from LF to schistosomiasis and STH; there was training in sampling procedures for larval and adult blackflies, breeding site surveying, and laboratory techniques, and provision of technical equipment, for example. About 200 000 samples/year were analysed by the ESPEN laboratory.

The impact of COVID-19 was currently being analysed, looking at what activities were being disrupted and where to focus priorities. Owing to the impending ASCEND funding cuts, mitigation measures were being undertaken, focusing on the more vulnerable areas using a prioritization checklist as well as expiry dates of medicines. A data consultant had been recruited.

**Regional Office for Africa report on NTDs amenable to individual case management**

Dr Alexandre Tiendrebeogo presented the regional plan for case management of NTDs, and on the status of implementation.

Of the diseases targeted for eradication, a total of 27 human cases of dracunculiasis had been reported in six countries in 2020; animal infections had been reported from four countries. So
far in 2021, fewer cases had been reported. The Democratic Republic of the Congo was in the precertification phase and expected to submit the national report before the end of the year; 41 countries had been certified free of transmission of the disease. Yaws, also targeted for eradication, was currently confirmed as endemic in 9 countries, whereas 21 countries had been historically endemic and 7 countries had never been endemic.

Of the diseases targeted for elimination, in May 2021 the situation regarding HAT stood thus: in 9 countries elimination as a public health problem had still not been reached; in 17 countries, elimination as a public health problem had been reached but surveillance was insufficient; in 4 countries, elimination as a public health problem had been reached and they were ready to submit dossiers for validation; 5 countries had reached the goal and had already submitted dossiers for validation; and 2 countries were post validation. In 2019, 874 *T.b. gambiense* cases had been recorded, and 111 *T.b. rhodesiense* cases. The leprosy situation was also improving, although some countries had not yet reached the threshold. Seven countries were endemic with more than 1000 annual new cases; 25 countries were endemic with 25–1000 new annual cases; and 14 countries had fewer than 25 new annual cases.

Of those diseases targeted for control, 14 countries were endemic for Buruli ulcer, and the total reported cases in 2020 were 1233. Eight countries were endemic for CL and three for VL, while 11 countries had both CL and VL. The dengue situation was not clear; 45 outbreaks had been recorded. For rabies, there was collaboration with other partners and pilot projects were being expanded to other countries.

Of the newly added NTDs, a first international training workshop on mycetoma and other deep mycoses had been held in Sudan in 2019. A report of an informal consultation on a framework for control of scabies and other ectoparasites had been produced; there was need for mapping tools etc. before control interventions could be implemented. Globally, the burden of snakebite envenoming was 7400 snake bites every day, and 400 000 people suffered permanent disability every year; however, there was a lack of reliable data on snakebite envenoming in Africa and a road map had been launched.

### 6. Road map companion documents

#### 6.1 Sustainability framework

Dr Gautam Biswas said that the road map and the sustainability framework (7) had been released in January 2021 in three languages (English, French and Spanish). Based on discussions and sustainability in the context of NTDs, which included the political, epidemiological, and social environments, as well as cross-cutting approaches to implementing interventions through health (e.g. leadership, workforce, access, management, service delivery) and non-health (e.g. education, water and sanitation, nutrition) sectors, one of the key elements had been to not overburden the countries so that sustainability of the framework could be assessed. Implementation would be followed up in many countries so that updates could be brought out.

For dissemination, a webinar had been held in June 2021, in collaboration with USAID; there had been 850 viewers. Countries had been encouraged to adopt the roadmap and track the implementation, and to build political will.

To track sustainability, the framework would be aligned with the NTD M&E framework (8).
6.2 M&E framework

Dr Pamela Mbabazi said that the M&E guidelines were based on demonstration of ownership and use of data at country level. Although the current processes were working, there was need for more cross cutting and intersectoral action and acceleration of activities.

In the framework, there were 70 indicators for tracking sustainability. There were 4 overarching indicators, 10 cross-cutting indicators, 22 disease-specific indicators, and 34 additional indicators. The framework also brought out the importance of qualitative work, and evaluation.

To evaluate progress, there was a stand-alone indicator compendium, a common template, road map indicator definitions, and data collection tools/pathways. Some were very well defined but others still required a bit of work. A reference sheet ensured consistency.

The road map would enable countries to strengthen capacities in decision-making and basic analysis etc. so that once the information flowed through the countries it would be included in the WHO corporate vision on a single repository of health information. Some normative tools were being developed by the Organization. So far, a community health information toolkit had been put together; next would be a toolkit for entry of data into national health systems to ensure streaming of data.

The qualitative approach to monitoring built on the NTD road map consultation process, and development of a gap assessment tool, underscoring the common challenges and areas for focused action – thus constituting a “heat map”.

To track accountability and see how, as a community, we were advancing, progress towards the 2030 road map targets would be by indicator reporting, periodic gap assessment, and reports to the Health Assembly (the next reporting would be to the Assembly in 2022). Key actions would be to support countries in adopting and implementing the framework, through illustration of e.g. how streaming was being done, and country experiences; and in addressing research needs, e.g. through improving indicators, increasing capacity for data analytics, and developing tools.

In discussion, queries were raised as to the number (70) of indicators. It was felt this number represented a huge burden for the countries. However, countries were to select the indicators they would use and were not expected to report on all of them. It was hoped that the relevance of the recommended indicators be considered at the next review, to ensure that all recommended indicators had genuine utility for the programmes.

6.3 Global investment case

Activities for another companion document – an investment case for neglected tropical diseases – were launched in August 2020. Dr Xiaoxian Huang said that this document would tackle the economic arguments for all 20 NTDs. It would help to estimate the funding requirements for the critical gaps identified by the gap assessment and to assess the feasibility of raising additional funds and attracting new partners.

Phase 1 constituted the global investment case. This would look at the current funding situation, and at the investment needed for the four gaps: diagnostics, access and logistic, monitoring and
evaluation, funding and advocacy. More tangible information could therefore be provided to current and potential donors, aligning them to future financing targets.

Phase 2 would constitute a country toolkit for the national NTD investment case. The key words here were “country ownership”; the move would be away from the external perspective to the internal. To construct the toolkit, an online survey would be conducted, looking to factors which motivated or discouraged country ownership. The final product would be a prototype of toolkit, to give users a more tangible model; there would be space for substantial revision. The toolkit was to be finalized in Q2 2022; the country pilot would begin in Q1 2022. There would be a call for participation from WHO regional offices so that countries could be reached, and a steering committee built to guide toolkit production.

6.4 Global strategy on WASH and NTDs

Dr Sophie Boisson said that a new strategy (9) had been launched on World Water Day to reflect the lessons learned since 2015. There had been a number of capacity-building activities, including an ASCEND WASH-NTD learning and exchange series with participants from 10 African countries, in which participants were taken through the different steps of the WASH-NTD toolkit, and could exchange experiences. A similar workshop was in preparation in PAHO, with plans for an online course in Open WHO.

At national level, some countries had been using the toolkit; joint situation analyses presented opportunities to develop a global initiative to strengthen hand hygiene. Many countries had started evaluating the road map and updating its content – the toolkit being a live document so the content could be updated, new tools included, and lessons reflected upon. There was a need also to update aspects of vector control, veterinary public health, and behavioural change.

The updated strategy also included tracking implementation of the strategy, and-analysis to better understand the challenges and how to address them. A research agenda had been initiated as part of a wider NTD departmental effort and its scope expanded to encompass vector-borne NTDs, research and training on WASH, and arboviral diseases.

6.5 One Health framework for action

Dr Bernadette Abela-Ridder said that another companion document was in preparation, setting out a framework for One Health, working across sectors in NTDs and including zoonoses and also snakebite. This would need resourcing and was meant as a framework for action; it was critical for making progress towards the targets. STAG would review and circulate the framework for wider stakeholder consultation and completion by the end of the year.

7. Elimination dossiers: update and country experience
7.1 Update

Dr Anthony Solomon said that dossiers regarding eradication, elimination, or elimination as a public health problem were in progress in several countries for several diseases. These included dracunculiasis (2 countries, plus one already certified), gambiense HAT (4 countries, plus 2 validated), rhodesiense HAT (one country), LF (2 countries, plus 17 validated) and trachoma
(4 countries, plus 11 validated). Work on some dossiers had been delayed by COVID-19. To illustrate, two case studies were offered:

7.2 Trachoma in Togo

Dr Amir Kello said that validation of elimination of trachoma as a public health problem had presented a challenge for Togo. Following initial submission of the dossier in August 2018, the document had been circulated among various groups – an ad hoc diagnosis-related group of three members that had been constituted, WHO, the Ministry of Health, and the WHO Country Office. All groups had helped with follow-ups and resubmissions, but the final dossier had not yet been submitted.

7.3 Lymphatic filariasis in Bangladesh

Dr Zaw Lin spoke (for Dr Mohamed Jamsheed) of the dossier experience of Bangladesh. He said that although a draft dossier had been prepared, one final district had yet to complete the survey. The Regional Office was in consultation with headquarters, and test kits had been provided, but COVID-19 cases were rising, and the country was waiting for this situation to change; hopefully the dossier would be submitted this year or early next year. Dr Jonathan King said that Bangladesh had been recommended to present a pre-submission to a regional dossier review group to get some feedback, just to keep the process rolling until the last survey could be completed.

8. Impact of COVID-19

8.1 Impact on MDA and case-finding

Professor Deirdre Hollingsworth presented a summary of analyses from the NTD modelling consortium demonstrating various scenarios of disruption caused by COVID-19 to seven NTDs (LF, onchocerciasis, schistosomiasis, STH and trachoma; gambiense HAT and VL on the Indian sub-continent) (10). The questions were how long NTD interventions could be postponed before adversely affecting progress towards the 2030 goals, in which settings or for which diseases would the impact be more severe, what would the impact of potential mitigation strategies be once activities resumed, how might lost ground be regained, and how progress towards the goal might be accelerated, etc. This was a modelling study looking at general scenarios and considering the “what if” scenarios of different interruptions to NTD programmes.

For MDA programmes, any missed or delayed rounds would lead to increased numbers of infections before the subsequent, delayed round was delivered. This higher level of infection when programmes restarted would likely lead to more rounds of treatment being needed to reach the 2030 disease targets. The longer the delay the greater would be the resurgence and the greater the number of rounds required to get back on track. Resurgence would be faster where the per-treatment prevalence was higher, i.e. where there was a baseline higher transmission rate, so more rounds of preventive chemotherapy may be required in areas with high transmission.

As to the impact of COVID-19 on case finding, the rate of resurgence of cases following an interruption to programmes was more challenging to simulate due to uncertainties in the dynamics of many of the diseases, and the difficulty of measuring changes in true levels of infection and disease in the absence of a programme. COVID-19 related interruptions to case
finding (passive or active) would likely lead to fewer cases being detected while the true underlying rate of new infections would likely increase. As the main surveillance information was from case finding, interruption or reduction in this programme would limit the ability to observe the underlying rate of increase of cases. Given these uncertainties in the transmission dynamics and the current challenges for surveillance, the modelling studies suggested that for VL on the Indian sub-continent, interruptions to programmes may lead to a build-up of undiagnosed, unobserved cases which would need to be identified when the programmes resumed. A similar pattern would be expected for gambiense HAT, but as the rate of epidemic growth was thought to be much slower than with VL, the additional infections might accrue more gradually.

Thus, the models suggest that delays to MDA rounds or case finding would lead to increased infection and morbidity, and increased time needed to reach the road map targets. Amongst the seven diseases looked at, models suggested that the impact of COVID-19 interruptions to NTD programmes would be greatest for schistosomiasis, trachoma and VL, especially in high transmission areas, and recovery strategies may be needed to get progress back on track.

These were model-based investigations of scenarios and were designed to inform policy formulation but not to be predictive. The work had been conducted in partnership with ESPEN and results had been tailored to subnational settings in the WHO African Region to address more localized delays. Feedback on these results was welcomed.

8.2 Impact on MDA in 2020

Mr Alexei Mikhailov said there had been a 66% response to the pulse survey questionnaire sent to 159 countries to gauge the impact of the pandemic on essential health services. The main disruption in services for NTDs was to large-scale preventive chemotherapy campaigns, community awareness/health education campaigns, and support for self-care, rehabilitation, and psychosocial services for patients with chronic NTDs.

Analysis of the impact on MDA campaigns was not yet complete. In 2019, 31 countries had reported on the implementation of MDA of different types of preventive chemotherapy: 8 countries had delivered more rounds of MDA and the number of people receiving the treatment had increased compared with 2018; a majority of countries had implemented the same number of rounds, but the number of people receiving the treatment had declined mostly by between 10% and 50%; 4 countries had implemented fewer campaigns; and 5 countries were unable to implement any MDA at all. Three countries that were not able to distribute MDA in 2019 were able to do so in 2020. A major factor in the decline in number of treatments was the smaller number of functioning IUs – a total decline of 30% was apparent.

Trachoma data were reported separately. In January 2021, the annual trachoma elimination monitoring form was sent to 35 countries requiring interventions against trachoma; 30 had submitted the form, of which 19 had been able to implement MDA – this was 30% fewer than in 2019. There had been a 65% reduction in the number of people receiving antibiotics for trachoma elimination purposes, a reduction of about 25% in geographic coverage, and a reduction in the number of people operated on (about half the number compared to 2019). COVID-19 was likely to have been a contributing factor.
8.3 Impact on supply chain for NTD health products

Dr Afework Tekle said that major supply chain challenges had resulted from COVID-19. In engaging with pharmaceuticals donors, WHO made sure the products arrived to allow them to be provided to beneficiaries, but even in normal times the supply chain was constrained by various bottlenecks, and COVID-19 had greatly aggravated this. During lockdown, the pharmaceutical industry had encountered a multitude of problems, including shortages of human resources, shifting priorities, inability to get supplies, grounded airlines, customs clearance hold-ups and consequently expiry of medicines. The whole supply chain had been severely affected.

Two examples were given. The first was related to the short shelf-life of NTD medicines, as for example praziquantel for schistosomiasis control and elimination. At the beginning of 2020, at least 40 million praziquantel tablets, spread across at least 19 African countries, were due to expire by the end of the year. A WHO prequalification team worked closely with Merck to extend the shelf-life of praziquantel for a further year, and MDA was able to restart in Q2 2020; by the end of 2020, more than 90% of praziquantel had been distributed, thus saving close to 36 million tablets from expiring and US$ 5.7 million.

Another example given was that of the leprosy medicine donations. Supply problems started when, in Q4 2019, issues arose with the quality of dapsone. Supply restarted in 2020 but was soon followed by lockdown. After distribution had again restarted, in Q3 and Q4 2020, impurities were found in rifampicin. While these quality issues had now been resolved, and most countries were receiving supplies in 2021, at least 10 countries had reported issues in relation to stockout of leprosy medicines.

Altogether, nearly 15% of countries reported issues related to stockouts of NTD medicines and expirations due to COVID-19.

In discussion, the point was raised that because health systems had been overwhelmed, people had not been going to health care facilities for leprosy and/or CL treatment, that these problems were not being reported or were underreported and could be exacerbated after COVID-19. WHO was asked to prepare and mobilize countries such that countries were aware of the challenges to come after COVID-19, especially with regard to treatment of leprosy and CL.

The issue of repurposing of drugs was also raised. Unofficial repurposing had been happening, such as with ivermectin, for which there was no proven benefit in treating COVID-19 (11). Another example was that of amphotericin B, redirected from VL for the treatment of fungal sequelae in COVID-19 patients in India. Repurposing was not currently a problem affecting drug supplies, but WHO would share the concern about potential unofficial repurposing of drugs.

Regarding disposal of expired medicines, WHO had standard operating procedures on how to dispose of these.

9. Impact of FCDO funding cuts

9.1 On FCDO-supported NTD programmes globally: leishmaniasis (elimination and control) and dracunculiasis (eradication)

Dr Dieudonné Sankara said that the impending FCDO funding cuts would have limited impact on LF and STH programmes in Bangladesh and Nepal, since other sources of funding were available for these elements of NTD programming there. However, as ASCEND was the only
external donor supporting elimination and control of VL programmes in 7 countries (2 in South Asia and 5 in East Africa), the impact for VL could be huge.

Liposomal amphotericin B (AmBisome) was the first-line treatment for elimination of VL as a public health problem in the South-East Asia Region, and the Regional Office had therefore secured a donation of this medicine. But in East Africa, where the epidemiology was more complex (vast geographies, regular epidemics, less sensitive rapid diagnostic tests), there was no donation programme. A patient in East Africa needed treatment for 21 days, but in India only for 1–4 days, so, where there was no donor, financial considerations could affect whether or not patients received the recommended care.

Gains achieved in East Africa in 2013–2020 included more treatment centres, improved access to medicines, improved surveillance and better reporting. In India, however, 98% of IUs had already achieved elimination of VL as a public health problem.

Globally, the impact of the funding cuts would be continued transmission of VL and delay in achieving the elimination milestones. The biggest threat would be discontinuation of leishmaniasis medicines and diagnostic tests, since all medicines and tests come from single manufacturers. WHO–ASCEND procurement had been a major driver for overcoming the market failure for leishmaniasis products.

In East Africa, the risks of funding interruption included avoidable deaths, loss of gains achieved during the previous 10 years, potential for outbreaks, and higher consumption of amphotericin B in the absence of first-line treatments (sodium stibogluconate + paromomycin). In the South-East Asia Region, possible risks included gaps in active case searching, avoidable deaths, loss of the AmBisome donation, reversal of gains previously achieved, development of new transmission foci, and delays in submission of dossiers.

Actions should be prioritized in East Africa, which had the highest disease burden of VL in the world. The forecast for treatments and diagnostics was estimated to be 10 000–15 000 VL patients per year. Therefore, new donors needed to be identified, and surveillance strengthened, especially in South Sudan.

Regarding dracunculiasis, there had been reduction in the number of reported cases in the past year, so it was inopportune to cut funding. In 2021 so far, 4 human cases had been reported in two countries (a 79% reduction from January–May 2020), and 136 infections in dogs (January–April 2021) reported from Chad (an 83% reduction from January–April 2020). Seven countries were yet to be certified: 5 endemic countries, 1 country in the precertification phase, and 1 country with known or possible history of endemicity before 1980.

Dracunculiasis was an outbreak-prone disease, so there was need to increase surveillance and interventions in risk areas. For example, from one single missed person in Mali, 400 people had become infected.

As to specific impacts of the funding cuts, the loss of UK£ 13 million would reduce the number of villages under surveillance (nearly 18 000 villages were under various degrees of surveillance in 2021), the number of proactively tethered dogs, the number of supervisory staff, and the amount of training; and the disease would spread to freed areas and countries. The big picture was delayed eradication and increased overall cost.

The way forward would be to strengthen coordination with current donors and reach out to new donors, and to further prioritize if the gap was not filled, to focus on transmission zones and areas at high risk of resurgence. It would also be important to certify Sudan and the Democratic Republic of the Congo at the earliest opportunity, in order to sustain momentum.
9.2 On ASCEND-supported countries in the African Region

Dr Pauline Mwinzi, on behalf of Dr Maria Rebollo, provided an update on ESPEN, on the partner matrix tool now available. This fully updated data management tool allowed tracking of partners, diseases, and tablets.

Partners were mapped by IU. The partner matrix and maps allowed identification of the:
- overlap of partners at the IU level (i.e. the number of IUs with and without other partners, to inform about new changes)
- diseases funded by partners at the IU level (see if any overlap – LF, onchocerciasis, schistosomiasis, STH, trachoma)
- gaps at IU level where there were no or insufficient partners.

By this means, the support from each partner could be seen. It was possible to ascertain where ASCEND was the only partner, so allowing gaps to be identified following removal of funding.

The tool also enabled knowledge about the:
- total number of tablets available at ESPEN level and in the countries
- expiry risk of the available tablets, at ESPEN and at country level
- planned shipments and delivery status of tablets
- planned surveys (15+ surveys in 5+ countries [LF, schistosomiasis, STH, onchocerciasis] would be affected by FCDO cuts).

The tool also permitted tracking of funding itself – what were the requests coming in; this would be discussed among the partnerships.

Thus, this data management tool focused on the partner matrix, on medicines and on funding gaps. A data analysis expert had been recruited at the Regional Office for Africa to combine these three tools to inform discussions and decisions.

10. Revision of criteria for NTDs

10.1 On including additional diseases into the portfolio of NTDs

Dr Albis Gabrielli said that the need for WHO to clarify the process for adoption of additional diseases had been prompted by the World Health Assembly in 2016, when Member States requested through resolution WHA69.21 that the burden of mycetoma be addressed and that this disease be included “among the diseases termed NTDs”. Consequently, a subcommittee of STAG-NTD had been tasked with drafting criteria and a process for adoption of new diseases.

What qualified a disease as an NTD? The process established by STAG-NTD was that one or more Member States should make a request for its inclusion to HQ, through the relevant country and regional offices. Criteria would include diseases that (i) disproportionately affected populations living in poverty and that caused important morbidity and mortality, including stigmatization and discrimination in such populations, justifying a global response; (ii) primarily affected populations living in tropical and subtropical areas; (iii) were immediately amenable to broad control, elimination or eradication by applying one or more of the five public health strategies adopted by the Department, and/or (iv) were relatively neglected by research, i.e. resource allocation was not commensurate with the magnitude of the problem, when it comes to developing new diagnostics, medicines and other control tools (12).

Category A would include diseases or disease groups that fulfil all four criteria, and category B would include diseases or disease groups that did not fulfil criterion iii so could not be
immediately targeted due to lack of tools, but would be supported by advocacy for research etc. NTD–STAG would consider all requests for inclusion in light of the above criteria and submit their recommendations to the DG, NTD-STAG would also review the global list every 3–5 years for potential shifts from category B to category A, or for removal from the list.

New diseases considered by STAG-NTD included mycetoma (included in category B, 2016); chromoblastomycosis (category B), podocooniosis (not included), scabies (category A), and snakebite envenoming (category A) were considered in 2017; scorpion sting envenoming was considered in 2018 but not included; fungal keratitis was considered in 2019 but the decision was deferred pending further information.

A moratorium on further additions had been in place since 2020, to ensure progress against the current 20 diseases; this focus would be maintained until at least 2023; therefore no further diseases would be considered until 2023 at the earliest. The need for more clarity and a more formal concept of category B was reinforced by STAG–NTD.

Pending issues included noma, which was not currently in the NTD portfolio. This year a resolution on oral health had been adopted by the World Health Assembly (WHA74.5 on Oral health), requesting that noma should be considered for inclusion in the NTD portfolio as soon as the list is reviewed; in the past, WHO had been asked to clarify the position of tungiasis, but in fact this disease was already included together with scabies and was grouped within “other ectoparasitoses”.

Outstanding issues requiring attention included whether “unfunded mandates” should be considered, i.e. if new conditions should be added to the NTD portfolio without a clear commitment by Member States and the global partners’ community to support disease control and other planned activities on a large scale; the role of WHO with regard to category B diseases also remained vague and should be clarified by NTD-STAG.

Update on new inclusions

- Mycetoma, chromoblastomycosis and other deep mycoses: conferences had been organized and, globally, some activities initiated in collaboration with CURE-ID (a project of the United States Food and Drug Administration) and others, including Global Health Innovative Technology Fund Japan, DNDi and the Medical Research Council; an App was available for data sharing on fungal mycetoma; on the other hand, WHO’s efforts to secure donation of itraconazole from different pharmaceutical companies had not yet been fruitful.

- Scabies: there had been an informal consultation in 2019 to look at the needs and priorities – the areas for MDA etc.; a first collaborating centre for scabies was being finalized (in Australia); online training courses on scabies were now available on the Open WHO platform.

- Snakebite envenoming: multi-stakeholder meetings had been held; an information platform on the distribution of venomous snakes was to be launched; there had been testing and implementing of a reporting process and data on antivenom stock; a first TPP for snake antivenom products for sub-Saharan Africa was in preparation; a community engagement toolkit was being prepared.

10.2 On NTD exercise – a report from the London School of Hygiene & Tropical Medicine

Dr Michael Marks referred to an annual exercise conducted as part of the Masters-level NTD module at the London School of Hygiene & Tropical Medicine. Groups were provided with
the STAG criteria and asked to identify diseases warranting inclusion and those no longer warranting inclusion. A common perception was that while category B in theory allowed NTDs for which there was not yet a public health strategy to be added, in reality this created a potentially unfunded mandate for WHO and was a barrier to adding diseases that were currently without a clear path of action. There was need to consider criteria for removal, as some diseases were becoming less neglected.

10.3 Discussion

What is and what is not an NTD? There needed to be a clear mechanism for adding new diseases to the list and for removing them if and when they became less neglected.

Before including any new disease, there needed to be clear funding and direction. As it stood, criteria for inclusion were not clear, especially for category B diseases. The criteria were quite broad and there was no mention of burden; other modifications might need to be considered.

Before removing anything from the list, there would be the need to determine if the targets had been met, and this would require discussion among stakeholders. Had post-elimination surveillance been achieved? If a disease was to be removed from the list, was there another platform where it could be housed in WHO? For instance, if surveillance was needed and not research, maybe there was a place elsewhere in WHO. There was need to understand where a disease could be overseen from within the Organization, and to know that the gains achieved while it was listed as an NTD would not be lost.

Taking dengue as an example, could this disease be moved, e.g. to emergencies? In this case however, the system for working on endemic diseases would be lost. Would dengue control be viable under another department? The best way would be to work across departments, but dengue was a disease that really needed to be on the list. This disease was absolutely neglected in some parts of the world, but perhaps the focus should be on a programmatic approach for all Aedes transmitted diseases, including e.g. chikungunya. To remove dengue from the list would be a grave mistake; 92% of dengue research was for vaccines and drugs but so far these were a failure; dengue incidence had increased 6-fold since 2000 and was present in 129 countries (over 100 endemic countries) and 3.9 billion people were at risk and research was biased to vaccines only, so there was much more to do.

11. Integration of NTDs with malaria

Dr Raman Velayudhan talked about integrating of vector control activities. Control procedures for all NTD vectors, including all mosquito and Chagas disease vectors, were to be standardized. This would include revising the manual on indoor residual spraying, revising test procedures for monitoring of insecticide resistance in vectors, and revising evaluation procedures for new vector control tools.

The Vector Control Advisory Group, set up in 2013, provided assessments of the public health value of new vector control interventions to WHO, product innovators and developers, and researchers. Over 24 products were currently under evaluation.

The strategic approach of the Global vector control response (GVCR) 2017–2030 (13), approved by the World Health Assembly, was to reduce the burden and threat of vector-borne diseases that affect humans. All WHO regions had adopted the response and developed regional plans; 74% of countries had implemented integrated vector management; 20% had
assessed their vector control needs. There had been a lot of collaboration in monitoring, data collection and reporting; the GVCR activities were coordinated globally by a WHO Joint Action Group.

Technical support included help in vector control needs assessments for selected countries; joint training on indoor residual spraying (malaria, VL, dengue); quality assured production of insecticide impregnated papers; support for regional/country-level training of trainers on vector surveillance and control.

WHO emphasized the importance of sustaining efforts to prevent, detect and treat vector-borne diseases including malaria, dengue and other arboviral diseases, during the COVID-19 pandemic. As a lot of dengue staff had been seconded to COVID-19 activities, communities were being mobilized for prevention of dengue, as well as for COVID-19, e.g. through simple materials communicated via the media, encouraging households to eliminate mosquito breeding sources, awareness-raising sessions in schools and colleges and utilising community health workers to convey key messages.

Following an unusual outbreak of malaria in Djibouti city in 2012, a new invasive malaria vector had been identified in Africa. This was *Anopheles stephensi*, an urban vector that had caused havoc in several cities in India. This species now coexisted with *Aedes aegypti*; *An. stephensi* had since been found in Ethiopia and Sudan, where it was present in sunlit pools as well as containers. Mapping work was continuing. There was potential for harmonizing surveillance and control of both vectors in urban areas (*Anopheles* and *Aedes*), e.g. through community mobilization, intersectoral collaboration and routine vector surveillance.

12. **Integration of NTDs with mental health**

Dr Jonathan King spoke of the current collaborations across mental health and NTDs; many persons affected by NTDs, particularly by those that cause disfigurement, develop psychosocial issues including loss of self-respect, feelings of hopelessness, depression, stigmatization, and drug and alcohol use, which can prevent them from seeking help. There was need for a coordinated approach to alleviate suffering in affected persons. In accordance with sustainable development goal 3 (ensure healthy lives and promote well-being for all at all ages), the WHO General Programme of Work 2019–2023 (regarding universal health coverage), and the road map (to coordinate efforts across all sectors), the Health Assembly had recently endorsed a call for coordinated efforts.

Collaboration between the NTD and Mental Health and Substance Use departments at WHO had already resulted in a manual on mental health and NTDs (14), looking at what can be done and calling attention to the mental health needs of persons affected by NTDs. The next step was to develop a toolkit for NTD and mental health integration.

Another area of collaboration was in discussions regarding universal health coverage. The current compendium (15) for public health planners and decision-makers on what should be covered in a national health programme was focused on individual care; activities were listed separately for mental health and for NTDs, but these could be cross tagged. Going into phase 2, this collaboration would focus on leprosy, and related to this, on an essential package of care for NTDs focusing on disability management and disability inclusion. As such, there would be an essential package of care for someone who came in for mental health or for NTD issues.
Discussion revolved around stigmatization and the increased mental health issues that would arise post COVID-19, and how these could be supported. People with NTDs were already stigmatized, as were mental health issues, and there needed to be measures in place so that patients with both issues were not stigmatized further. The first step would be to make mental health services aware of locally endemic NTD disorders, and to make patients with NTDs aware about how they could get access to mental health services. Mental health services and NTD services needed to be aware of the services offered by each other, so, for example, how a patient with LF and lymphoedema could be assessed for mental health. NTDs that lead to blindness or physical disabilities and leprosy were some of the main problems that caused mental health issues. A point raised was that people with NTDs who asked for services were likely to be less affected by mental health issues than those who did not ask; it was suggested that social movements be set up, as for leprosy, which worked very well in supporting groups, in helping with financial problems, alcohol problems, etc. Financial aspects were crucial for mental health. Persons affected by leprosy, for example, reported how important it was for them to contribute financially to their families.

13. Forecasting of need for and access to NTD health products

Dr Afework Tekle said that a new initiative that the NTD department was embarking on was to forecast the need for diagnostics and medicines. Access and logistics to NTD health products had been identified as a gap to achieving the road map goals, and a concept had been developed to determine the products required.

To date, more than 10 billion NTD health products had been donated to the Programme. The need was to estimate the size of the populations in each country who required the interventions and the projected number of people at-risk and infected; this would then allow a forecast of how many products of each type were required each year until 2030 – to forecast the demand, by region and by country and by disease for individual health products. To ensure that adequate manufacturing capacity was available, the total cost and the gap in products by 2030 would be estimated, and the demand for active pharmaceutical ingredient volumes in metric tonnes forecast. As well, the current and future financing resources for NTD health products and their global distribution would be mapped. The method of work would be collaborative, with both public and private sector partners.

It was anticipated that a final document would be ready by April 2022, describing how the forecast had been arrived at, and how the number and incidence of disease conditions, amounts of product required, financial requirements, and gaps, etc., had been estimated.

14. Diagnostics

Dr Daniel Dagne and Dr Camilla Ducker jointly presented the work of the Diagnostics Technical Advisory Group (DTAG). Planning for the road map had required reassessment of diagnostics needs across the NTD portfolio and included the creation of a diagnostics technical advisory group, which had been formed in October 2019. Three DTAG meetings (16) had already been held and their recommendations were being taken forward. Remarkable progress was being made. Several subgroups had been established.
Draft recommendations from the third DTAG (June 2021) included:

- WHO to establish a DTAG subgroup to address crucial issues in development and maintenance of laboratory capacity regarding NTDs.
- DTAG to establish regular meetings (at least yearly) with the M&E working group, or a mechanism to review evolving M&E requirements.
- WHO to prepare an advocacy plan regarding new resources needed.
- WHO to work with FIND and WHO collaborating centres to establish biobanks for priority NTDs.
- DTAG to request the subgroup on manufacturing and regulatory pathways to look at the implications of the new in vitro diagnostic regulation that would come into force by May 2022 on NTD diagnostics manufacturing.
- DTAG to request chairs of the disease-specific subgroups to address test validation.
- DTAG to recommend development of a TPP for guinea worm under the newly formed subgroup on zoonotic NTDs.

DTAG had defined priority tasks and established ad hoc disease-specific, use-case or category-specific subgroups to deliver on clear tasks. Three cross-cutting subgroups had also been established on: surveillance platforms; clinical diagnostic, imaging and microscopy; manufacturing and regulatory pathways.

TPPs were being developed, and a donor group (time-limited and informal) had been established to investigate financial aspects – to assess the current diagnostics funding landscape, improve access to already developed diagnostics, promote risk-sharing among donors, leverage connections within funding networks, and identify new funding sources, etc.

Five disease-specific subgroups had been formed, on LF, ONC, SCH, STH, HAT. Already published were TPPs on:
- stop-triple-therapy MDA for LF
- surveillance for LF
- to assist mapping and surveillance for onchocerciasis.

TPPs currently undergoing clearance were:
- stopping of surveillance for schistosomiasis
- M&E of schistosomiasis
- M&E of STH
- rhodesiense HAT useable in peripheral health facilities.

TPPs under discussion:
- for suspected or unconfirmed gambiense HAT.

The skin NTD subgroup had also made progress and first-draft TPPs were in various stages of the publication process (under discussion, in preparation, out for comment, or under review), for:
- Buruli ulcer;
- two tests for leprosy – one to guide post-exposure prophylaxis in leprosy contacts, and one to confirm diagnosis (no current test);
- cutaneous and post kala-azar dermal leishmaniasis;
- mycetoma (no current test) – two types of test identified, one for when treatment can be stopped (treatment is complicated and very long);
- scabies – a test to start MDA and one to stop MDA; and
- yaws, where currently an algorithm is being used; a new test would be very helpful.
15. Partners’ statements

Dr Mark Bradley from GlaxoSmithKline said that the company remained a committed partner to the global initiative, was committed financially as well as with their expertise. He was impressed by the amount of activity and with all the partners who had supported the new road map and by the attendant documents, and looked forward to a bright future for NTDs. Despite huge progress over 20 years, there was still a long way to go but with concerted effort he believed we would go forward if this level of activity continued.

Dr Kashef Ijaz from The Carter Center thanked WHO for convening the meeting and commented that mental health was very important in terms of NTDs and commended WHO for looking into this issue and for discussing it. At The Carter Centre, the issue was also under discussion. The FCDO cuts represented a big challenge for the NTD community. WHO could lead the development of a strategy for fundraising with support from donors and partners and coordinate with them to move the agenda forward. He felt that some of the diseases already on the agenda could be prioritized.

Dr Johannes Waltz from Merck appreciated that the partnership would fulfil the targets of the road map. Merck was committed to providing praziquantel until elimination had been achieved, although a huge task still lay ahead. The FCDO crisis had opened up problems for everyone; and there were systemic challenges in the supply chain which urgently needed to be overcome. Together with colleagues in WHO and other partners, Merck was hopeful that solutions would be found; he remained optimistic and looked forward to continuing to work together.

Ms Thoko Elphick-Pooley from Uniting to Combat NTDs congratulated the NTD department on the tremendous amount of work that had been done. She indicated that in the UK parliament, a leader had used the impact of NTDs to ask the prime minister a question; NTDs had not previously been discussed in the UK parliament, and the intervention of WHO had made this possible. The FCDO cuts were a terrible set-back but she felt we would come out stronger on the other side. Her organization remained committed to supporting the efforts of WHO and they were looking forward to supporting them on the road to 2030.

Dr Isaac Chikwanha from the Global Health Innovative Technology Fund, which was currently working on collaborative work presented yesterday, said the Fund would continue to support this work so that countries had tools and finances to help them support their NTD programmes. Financing tools were important, especially with FCDO pulling out, and they would continue their support.

In discussion, the question was raised as to where a big difference could be made. Dr Daniel Argaw said that for NTDs, we might first start with mycetoma, where the treatment was really not acceptable: 18 months for itraconazole, with some side effects and an efficacy of only 35% or 40%. This definitely required attention; although a compound was under clinical trial, it was still not ideal. Blastomycosis also required attention: treatment was for 6 months. For VL also, especially in E Africa, there was currently no breakthrough for improved treatment – there was only sodium stibogluconate (Pentostam); and new treatments were definitely needed. The same also went for Chagas disease, for which only two treatments had been available for the last four decades and there was nothing known to be in the pipeline; although a number of molecules were being studied, none were promising. There was a definite need to look disease by disease to see where a difference could be made.
16. STAG-NTD recommendations to the Director-General

The Strategic and Technical Advisory Group for Neglected Tropical Diseases:

1. **Thanks** the Director and WHO regional offices for their comprehensive reports on developments since the previous meeting (Geneva, 15–17 September 2020).

2. **Commends** the quantity and quality of work undertaken by the Department and progress against NTDs globally, despite the limitations imposed by COVID-19.

3. **Recommends** that:

   - as efforts are made to better harmonize data collection tools, capacity for data use and analytics be strengthened at country level;
   - at the time of the next review of the road map and companion documents, the relevance of recommended indicators be reviewed to ensure that all recommended indicators have genuine utility for programmes;
   - consideration be given to establishing an advisory group to identify the major gaps in diagnosis and management of VL and propose strategic interventions to address these gaps;
   - efforts be made to prioritize support for rabies in the African and Eastern Mediterranean regions, through targeted advocacy to national governments, practical support for surveillance, human vaccination and provision of rabies immune globulin, technical assistance and collaboration with other relevant organizations to ensure canine vaccination;
   - greater attention be paid to assessment of the burden of NTDs and implementation of appropriate interventions in refugee populations and internally-displaced peoples, particularly relating to CL programmes in conflict-affected areas of the Eastern Mediterranean Region;
   - WHO, through its prequalification programme, develop a robust and comprehensive mechanism for post-market quality assurance of insecticide products, to guard against unacceptable deterioration in the quality of products delivered to programmes and consumers;
   - increased attention to echinococcosis and cysticercosis, and greater work to develop and implement One Health approaches relevant to NTDs;
   - intensified efforts for countries in the last mile or at the stage of finalizing dossiers, and consideration of pre-emptive dossier preparation prior to the likely period of submission.

4. **Notes** the predicted and emerging empirical evidence of the impact of COVID-19 on NTD programmes and **recommends** that:

   - health systems be alerted and assisted to be prepared for increased numbers of cases of NTDs, more intense transmission of infection and accumulating disability following COVID-19-related reductions in intensity of active screening programmes, notably for leprosy and CL; this should include calculation of likely requirements for relevant health products;
   - medicines without proven evidence of efficacy against COVID-19 (e.g. azithromycin, ivermectin) be protected from being diverted for use against COVID-19, and that even in the event of efficacy of such drugs against COVID-
being established, the agreement of medicine donors for repurposing be obtained before the donations are used for that purpose;
- urgent action be taken to avoid expiration and stock-outs of medicines, particularly praziquantel, due to delays in programme implementation;
- consideration be given to the use of intensified strategies against NTDs to not lose previously hard-won gains, build back better, and increase the chance of reaching 2030 targets defined in the 2021–2030 NTD road map.

5. **Notes with concern** the impact of the cuts in funding to NTD programmes in general and the impact on diseases with outbreak potential, such as VL (in East Africa and South Asia) and dracunculiasis in particular, and **recommends** that:

- WHO develop an advocacy plan and networking platform to maintain and strengthen coordination among and advocacy with current donors and engage new donors, to help secure new resources to achieve the road map targets for 2021–2030;
- cost-saving options be considered, including through reviewing interventions to find greater efficiencies, for example by integration of work across NTDs and beyond;
- supplies of medicines and diagnostics be maintained if all other options/mitigation strategies fail;
- because it is an eradication programme, activities against dracunculiasis be prioritized (if funding gaps not filled) with a focus on transmission zones, including endemic and non-endemic countries and areas at high risk of disease resurgence;
- Sudan and the Democratic Republic of the Congo be prioritized for the certification of interruption of dracunculiasis transmission at the earliest appropriate opportunity.

6. **Notes** ongoing interest in the designation of additional diseases as NTDs, and **recommends** that:

- the moratorium on not adding diseases to the NTD portfolio be maintained at least until 2023;
- consideration be given to developing exclusion criteria and a process for removing from the list those diseases that no longer meet the inclusion criteria, taking into account how the global NTD programme operates, the particular needs (e.g. research versus surveillance) of each disease, and whether those needs might be better served if a disease was placed under the stewardship of another technical area;
- the appropriateness of category B be reconsidered;
- consideration be given to assigning management of certain NTDs to other WHO departments/programmes, e.g. noma/oral health;
- WHO address the issue of the NTD Department having a mandate to work on some diseases but no resources/funding to actually do so;
- work continue to “maintain the gains” on the current 20 NTDs, with future discussion on potential revision of the criteria for designation of NTDs to incorporate broader considerations, e.g. regional perspectives on disease burden.
7. **Recommends** that WHO continues cross-cutting work to address the mental health of persons affected by NTDs, such as through establishing networks for affected persons, inclusion, social support, addressing stigmatization, and links to social services for vocational training/income generation, while remembering that declaring someone to have a mental health condition can itself be stigmatizing. In integrating services, a component on health education and engagement at community and health facility level needs be included so that the person who is already stigmatized with an NTD is not further stigmatized and labelled as having a mental health problem. Attention to mental health issues will likely considerably increase attention and adherence to the management of NTDs and improve individuals’ socioeconomic prospects.

8. **Acknowledges** the impressive progress towards elimination of VL in the South-East Asia Region, **expresses concern** about the impact of COVID-19 on VL and other diseases amenable to individual case management, and invites Member States and relevant stakeholders to implement mitigating strategies through active surveillance and other measures as well as scaling up the detection of local transmission in new areas.

9. **Acknowledges** the challenges posed by new in-vitro diagnostic regulations and of funding in maintaining production of diagnostic tests and life-saving antileishmanial medicines and other health products, and **recommends** that WHO collaborates and coordinates with donors, partners, regulatory authorities, Member States, and manufacturers to streamline forecasts, regulation and production.

10. **Requests** that the next STAG-NTD meeting includes on the agenda the issue of efficient prequalification of NTD diagnostics, the issue of diagnostics for dengue being particularly noted.

11. **Agrees** with the request by the secretariat to hold STAG-NTD meetings twice a year (the next in November–December 2021).

17. **Recommendation from the secretariat to STAG**

Dr Mwelecele Malecela mentioned the suggestion that had been made of having two STAG meetings a year. The focus would be on key areas in the Autumn, and in the Spring, on the progress that had been made. This would be a virtual meeting in the Autumn, and a face-to-face meeting in the Spring, whenever it would be allowed.

All were amenable to this idea.

18. **Closure**

After the customary exchange of courtesies, the meeting was closed at 16:00 on 24 June 2021.
References


12. See recommendations for the adoption of additional diseases as neglected tropical diseases (https://www.who.int/neglected_diseases/diseases/Adoption_additional_ntds.pdf, accessed 2 September 2021).


Annex 1. Agenda

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<tr>
<td>13:00–13:10</td>
<td>Opening remarks</td>
<td>Ren Minghui, ADG/UCN</td>
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<tr>
<td>13:10–13:20</td>
<td>Administrative matters, including revised terms of reference of STAG; appointment of rapporteurs</td>
<td>Chair</td>
<td>Revised terms of reference</td>
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<td>13:20–13:30</td>
<td>Year in review – video</td>
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<td>13:30–14:15</td>
<td>Director’s report</td>
<td>Mwele Malecela</td>
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<td>14:30–16:00</td>
<td>Progress from the Regions</td>
<td>Regional NTD focal points</td>
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<tr>
<td>13:00–13:30</td>
<td>Road map companion documents</td>
<td>Pamela Mbabazi / Gautam Biswas / Sophie Boisson / Bernadette Abela-Ridder / Xiaoxian Huang</td>
<td>M&amp;E framework Sustainability framework WASH &amp; NTDs global strategy Investment case</td>
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<td>13:30–14:00</td>
<td>Dossiers: update and country experiences</td>
<td>Anthony Solomon Selected country representatives</td>
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<td>14:00–14:30</td>
<td>Impact of COVID-19</td>
<td>Deirdre Hollingsworth Alexei Mikhailov Afework Tekle</td>
<td>Report</td>
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<td>14:45–15:15</td>
<td>Impact of FCDO cuts</td>
<td>Maria Rebollo Dieudonné Sankara</td>
<td>Meeting report</td>
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<tr>
<td>15:15–16:00</td>
<td>Revision of criteria for NTDs</td>
<td>Albis Gabrielli Lucille Blumberg Michael Marks</td>
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## Day 3

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<tr>
<td>13:00–13:10</td>
<td>Integration of NTDs with malaria</td>
<td>Raman Velayudhan</td>
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<td>13:10–13:20</td>
<td>Integration of NTDs with mental health</td>
<td>Jonathan King</td>
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<td>13:20–13:30</td>
<td>Forecasting of need for and access to NTD Health Products</td>
<td>Afework Tekle</td>
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<td>13:30–14:00</td>
<td>Diagnostics</td>
<td>Daniel Dagne / Camilla Ducker</td>
<td>Second meeting report</td>
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<td>14:00–14:30</td>
<td>Partners’ statements</td>
<td>Partners</td>
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<td>14:45–15:55</td>
<td>STAG-NTD recommendations to the Director-General</td>
<td>NTD-STAG</td>
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<tr>
<td>15:55–16:00</td>
<td>Closure</td>
<td>Chair</td>
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Annex 2. List of participants

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