



*Buruli ulcer*  
*Chagas disease*  
*Dengue and chikungunya*  
*Dracunculiasis*  
*Echinococcosis*  
*Foodborne trematodiases*  
*Human African trypanosomiasis*  
*Leishmaniasis*  
*Leprosy*  
*Lymphatic filariasis*  
*Mycetoma, chromoblastomycosis  
and other deep mycoses*  
*Noma*  
*Onchocerciasis*  
*Rabies*  
*Scabies and other ectoparasitoses*  
*Schistosomiasis*  
*Snakebite envenoming*  
*Soil-transmitted helminthiases*  
*Taeniasis and cysticercosis*  
*Trachoma*  
*Yaws*

# Global report on neglected tropical diseases

# 2025



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## Foreword

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We are living in a golden age of disease elimination. Since the beginning of this century, WHO has recognized dozens of countries for eliminating at least one neglected tropical disease (NTD), and the number of people needing interventions against NTDs has dropped by almost one third, from more than 2 billion to less than 1.5 billion.

Countries are demonstrating that it is possible to combat NTDs when they have the tools and support they need. Over the past decade, nearly 30 billion tablets and vials of medicines have been delivered to countries for treatment of NTDs. In 2024 alone, 1.8 billion medicines for NTDs were donated and delivered for treatments, of which nearly one billion were managed by WHO and made available to countries free of charge. The return on

investment in terms of public health gains and socio-economic protection is high, helping populations escape the generational cycles of poverty associated with NTDs.

These public health gains against NTDs would not have been possible without the sustained commitments by many governments and donors. Notably, the late President Jimmy Carter was a tireless advocate for health and social justice, and a committed voice for impoverished communities worldwide. His unwavering dedication to combating NTDs leaves an unparalleled legacy in global health that saved millions from debilitating illnesses. Although he did not live to see the realization of his dream of the eradication of dracunculiasis (Guinea-worm disease), his legacy will endure through the work of The Carter Center and our collective action against NTDs.

Even as we celebrate the progress we have made, we are also confronted with many new challenges, including severe cuts in global health funding, the increasing consequences of climate change, and the proliferation of conflicts and humanitarian crises. With the 2030 deadline for the Sustainable Development Goals approaching, it is critical that we intensify our efforts to reach the targets set out in the NTD road map.

As this report shows, with the hard work of governments, communities, and partners, overcoming challenges, expanding access to interventions and liberating the world's most vulnerable communities from diseases is not aspirational – it's real.

**Dr Tedros Adhanom Ghebreyesus**  
Director-General  
World Health Organization

# Preface

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As this report goes to press, WHO is in the midst of a major restructuring and prioritization process in response to a financial crisis precipitated by the withdrawal of funds globally.

These financial constraints are among the most severe in WHO's history. The ongoing restructuring and prioritization process is intended to address this challenge. We anticipate that WHO will emerge from this exercise as a leaner, stronger, more sustainable and independent organization, better capacitated to respond to the needs of the Member States it serves and to deliver on its shared mission of health for all.

Neglected tropical diseases are a central part of this process. On 1 July 2025, the WHO Director-General established the new Department of Malaria and

Neglected Tropical Diseases, resulting from the merger of the Global Malaria Programme and the Global Neglected Tropical Diseases Programme. The department is part of the new division of Health Promotion, Disease Prevention and Care, established on 16 June 2025.

Going forward, the vision for the new Department will be to ensure sustainable and equitable impact on both malaria and neglected tropical diseases by providing global leadership and support to Member States and partners; shaping the scientific and research agenda towards more impactful tools and strategies; developing ethical and evidence-based guidance; and monitoring global progress, trends and emerging threats.

This report is an important contribution to that endeavour.



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# Abbreviations and acronyms

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|       |                                                                         |
|-------|-------------------------------------------------------------------------|
| DALYs | disability-adjusted life years                                          |
| DHIS2 | District Health Information System version 2                            |
| ESPEN | Expanded Special Project for Elimination of Neglected Tropical Diseases |
| GAT   | Gap Assessment Tool                                                     |
| GBD   | Global Burden of Disease                                                |
| GCSC  | Global Coordination and Stewardship Committee                           |
| GHE   | Global Health Estimates                                                 |
| GNARF | Global NTD Annual Reporting Form                                        |
| HMIS  | health management information systems                                   |
| JAP   | preventive chemotherapy Joint Application Package                       |
| MDA   | mass drug administration                                                |
| MDE   | multi-disease elimination                                               |
| MDT   | multi-drug therapy                                                      |
| NTD   | neglected tropical disease                                              |
| ODA   | official development assistance                                         |
| PEP   | post-exposure prophylaxis                                               |
| PKDL  | post-kala-azar dermal leishmaniasis                                     |
| SBE   | snakebite envenoming                                                    |
| SCTSM | Supply Chain Technical Support Mechanism                                |
| SDG   | Sustainable Development Goal                                            |
| TEMF  | Trachoma Elimination Monitoring Form                                    |
| TPP   | target product profile                                                  |
| UN    | United Nations                                                          |
| WASH  | water, sanitation and hygiene                                           |
| WHO   | World Health Organization                                               |
| WIDP  | WHO Integrated Data Platform                                            |
| YLD   | years lived with disability                                             |
| YLL   | years of life lost                                                      |

# Executive summary

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In 2025, the WHO Global Neglected Tropical Diseases Programme marks 20 years of action and data. Since its establishment in 2005, a concerted effort involving pharmaceutical manufacturers, development partners, philanthropic organizations, national health authorities and WHO has contributed to a measurable decline in the global burden of neglected tropical diseases (NTDs).

This report presents progress made in 2023–2024 towards the 2030 targets set in *Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030* (the road map), including several important analytical updates:

- Progress on all overarching, cross-cutting and disease-specific indicators, milestones and targets.
- Analysis of disease burden in terms of disability-adjusted life years (DALYs), prevalence and mortality, as well as numbers of people affected by NTDs, detected and treated.
- New perspectives on the financial risk associated with NTDs, highlighting their impoverishing effects on affected populations.
- A detailed review of four thematic areas – diagnostics, monitoring and evaluation, access and logistics, and advocacy and funding – enabled by the Gap Assessment Tool (GAT).
- Analysis of official development assistance for NTDs in the context of a constrained and evolving financial landscape.

## Overall performance

In 2023, an estimated 1.495 billion people required interventions against NTDs, 122 million fewer than in 2022 and a 32% decrease from the 2010 baseline. Between 2015 and 2021, the disease burden dropped from 17.2 million to 14.1 million DALYs, while NTD-related deaths decreased from an estimated 139 000 to 119 000. The number of people affected by NTDs declined from 1.9 billion in 1990 to just over 1 billion in 2021.

In 2023, 867.1 million people were treated for at least one NTD, 99% of whom received preventive chemotherapy.

In 2024, WHO acknowledged seven countries for eliminating an NTD (Brazil and Timor-Leste for lymphatic filariasis; Chad for the gambiense form of human

African trypanosomiasis; India, Pakistan and Viet Nam for trachoma; and Jordan for leprosy), bringing the cumulative total to 54 countries with at least one NTD eliminated and accounting for 75 successfully completed acknowledgement processes.

Notable improvements were observed across several cross-cutting indicators, including enhanced integration in the implementation of preventive chemotherapy, as reflected by the improvement in the integrated treatment coverage index. Additional progress was registered in the broader adoption of integrated strategies for skin-related NTDs (skin-NTDs), the increased inclusion of NTDs in national health strategies, plans and essential service packages, and the wider adoption of guidelines for management of NTD-related disabilities. Nevertheless, progress slowed or stagnated in several key areas: in reducing deaths from vector-borne diseases, in expanding access to water, sanitation and hygiene (WASH), in protecting population from catastrophic out-of-pocket expenditures, in ensuring complete reporting on all NTDs and in collecting gender-disaggregated data.

## Diseases targeted for eradication

In 2024, 15 human cases of **dracunculiasis (Guinea-worm disease)** were reported from only two countries (Chad and South Sudan); however, animal infections continued to be detected in a few others.

As of the end of 2024, 16 countries across three WHO regions remained endemic for **yaws**. Additionally, 82 countries previously classified as endemic require reassessment of their current status.

In a significant step forward, the process to establish a joint commission for certification of both dracunculiasis and yaws was initiated in 2024.

## Diseases targeted for elimination (interruption of transmission)

In 2023, 10 countries reported 675 cases of **gambiense human African trypanosomiasis** to WHO. A total of 24 countries remain endemic, while seven have been validated as having eliminated the disease as a public health problem; none has yet achieved verification for interruption of transmission.

The same year, 184 countries, territories and areas reported **leprosy** data to WHO, one of the most comprehensive reporting achievements among all NTDs; among these, 56 countries reported zero cases. In 2024, Jordan became the first country verified for elimination of leprosy.

Also in 2024, several countries advanced towards stopping mass drug administration (MDA) for **onchocerciasis** and transitioning to post-treatment surveillance. In 2023, a record 172 million people were treated with ivermectin for this disease, the highest annual figure to date.

## Diseases targeted for elimination as a public health problem

By the end of 2024, eight countries (Argentina, Brazil, Chile, Colombia, Paraguay, Peru, Plurinational State of Bolivia and Uruguay) had interrupted domiciliary vector transmission of **Chagas disease** in their entire national territory or in defined areas.

In 2023, four countries (Malawi, Ethiopia, United Republic of Tanzania and Zambia) reported 24 cases of **rhodesiense human African trypanosomiasis**, a 96.6% reduction in the number of cases from 2000.

Although the number of cases of **visceral leishmaniasis** has remained stable over the past 4 years, a major decline has occurred since 2014, driven primarily by progress in the South-East Asia Region.

In 2023, coverage of MDA for **lymphatic filariasis** returned to pre-COVID-19 levels, aided in part by a reduction of 137 million in the number of people requiring this intervention since 2022.

Improved data collection on **rabies** led to a significant increase in the number of reported deaths in 2022–2023 compared with previous years; nevertheless, underreporting remains a major challenge.

The number of people requiring preventive chemotherapy for **schistosomiasis** decreased by 11.3 million between 2022 and 2023. However, treatment gaps persist, particularly with regard to the adult population.

Progress in the treatment of **soil-transmitted helminthiasis** remained stable. Mass treatment for this group of diseases continues to represent one of the world's largest public health interventions, reaching over 457 million people in 2023. In 2024, WHO published its first guideline on **strongyloidiasis** in an effort to scale-up public health control of this condition.

In 2024, three countries (India, Pakistan and Viet Nam) were validated by WHO for eliminating **trachoma** as a

public health problem. The number of people requiring interventions against this disease declined to 114 million in 2023, down from more than 285 million in 2010.

## Diseases targeted for control

Diagnostic capacity for **Buruli ulcer** is being strengthened globally, as reflected in the growing proportion of laboratory-confirmed cases; however, progress in detecting cases and completing treatment courses remains slow.

The number of **dengue** cases has continued to rise in recent years. In 2024, WHO classified dengue as a Grade 3 emergency (the Organization's highest level of emergency), and prequalified a new dengue vaccine.

Efforts to map **chikungunya** are advancing, although reporting remains limited. Strategies and tools to combat this disease are being strengthened.

The number of reported cases of **echinococcosis** increased in 2023 compared with 2022; however, underreporting remains a significant challenge. A few countries have started implementing intensified control efforts.

Preventive chemotherapy for **foodborne trematodiasis** is implemented in only a small number of countries, with reporting remaining minimal. In 2024, PAHO released operational guidelines for eliminating human fascioliasis as a public health problem in the Americas.

In recent years, the number of cases of **cutaneous leishmaniasis** has increased, driven largely by health systems disruptions in the Eastern Mediterranean Region. Nonetheless, improved reporting in the Americas has revealed progress in case detection and management in several countries.

**Mycetoma, chromoblastomycosis, paracoccidioidomycosis and sporotrichosis** continue to be among the most neglected conditions. Limited information still prevents the full appreciation of their burden and distribution, while progress in including these conditions in public health programmes remains slow.

Although the true burden of **noma** is still largely unknown, its inclusion in the list of NTDs in December 2023 marked a step forward. Since then, progress has been made in integrating noma into the road map and initiating data collection.

**Scabies** and other ectoparasitoses such as **tungiasis** continued to be underreported. However, some countries have started including these conditions in NTD plans or universal health coverage packages of care,

and have implemented control activities such as MDA of ivermectin.

**Snakebite envenoming** has seen some progress, including its designation as a notifiable disease in some countries, the development or updating of national treatment guidelines, and the exploration/scoping of potential for local antivenom production.

In 2024, a monitoring and evaluation framework for public health control of **taeniasis** and **cysticercosis** was launched to guide mapping and impact assessments.

NTDs continue to be under-recognized. A lack of high-quality, timely and comprehensive data remains a major challenge to progress across the NTD portfolio. Several diseases are difficult to diagnose clinically or require specialized laboratory testing. Surveillance and reporting systems are often weak or nonexistent, and some conditions have historically been excluded from national health information systems. In many settings, patients seek care from traditional healers or informal providers, further reducing visibility.

Strengthening surveillance, integrating NTDs into routine national health information systems and reducing fragmentation in reporting mechanisms are essential to accurately track progress and guide effective, sustainable interventions.

## Programmatic action

Implementation of the road map advanced on several fronts in 2024:

- **Technical innovation:** WHO launched a process to define research and development priorities for NTDs; six new formulations of NTD medicines were prequalified by WHO, bringing the total of NTD finished pharmaceutical products on the WHO prequalified list to 20; one active pharmaceutical ingredient for miltefosine and a new dengue vaccine were also prequalified.
- **Normative work:** some 50 WHO publications kept programmes updated with the latest guidance: these included two sets of guidelines, on human African trypanosomiasis and on strongyloidiasis; a monitoring and evaluation framework on schistosomiasis and soil-transmitted-helminthiasis; a regional strategic framework to end NTDs in South-East Asia; a strategic framework to eliminate visceral leishmaniasis in eastern Africa; and a set of operational guidelines for the elimination of human fascioliasis as a public health problem in the Americas. In addition, six target product profiles (TPPs) were released in 2024: five on diagnostics and one on snakebite antivenoms, bringing to 27 the number of WHO TPPs for NTDs.
- **Operational support:** as of end 2024, 19 different types of medicines were being donated by 12 manufacturers to support NTD interventions; between 2011 and 2024, almost 30 billion tablets and vials were delivered to countries: of these, 1.8 billion were donated and delivered for treatments carried out in 2024 alone; the Global Coordination and Stewardship Committee was established to provide a framework for effective management of donated NTD medicines globally and address country-level supply chain challenges; a 5-year pilot project, the Supply Chain Technical Support Mechanism, was launched in eight priority African countries (Democratic Republic of the Congo, Ethiopia, Kenya, Madagascar, Mozambique, Nigeria, Uganda and United Republic of Tanzania).
- **Advocacy and partnerships:** NTDs remained visible in global forums such as G7 and G20. The GLOBAL APPEAL 2024 to End Stigma and Discrimination against Persons Affected by Leprosy, convened by the Sasakawa Health Foundation, was hosted by WHO at its headquarters in Geneva; an international high-level meeting on dracunculiasis eradication was convened in Chad on 16–17 September 2024; new partnerships were established by WHO with Gavi, the Vaccine Alliance (on rabies) and with the Global Health Innovative Technology Fund (GHIT), to promote access to safe, affordable and effective medicines, vaccines and diagnostics for NTDs.
- **Capacity-building:** in 2024, WHO expanded its offer of online courses dedicated to NTDs by publishing 33 new products covering 23 technical topics in seven languages; between 2020 and 2024, WHO released a total of 102 courses covering 37 different NTD topics in 15 languages. Between June and October 2024, the first field assessment of the AI-powered WHO Skin App took place in Kenya.
- **Cross-cutting approaches:** efforts to strengthen mutual integration of NTD services, promote cross-sectoral coordination and facilitate mainstreaming within national health systems continued, particularly through the multi-disease elimination and health campaign effectiveness initiatives. The integrated control and management of skin NTDs demonstrates this shift towards people-centred delivery models and primary health care. In parallel, work to facilitate mainstreaming of NTD data into national health management information systems progressed as part of the WHO Routine Health Information

System (RHIS) toolkit initiative. Action was also taken to streamline and harmonize approaches to NTD data collection, including processes, platforms and reporting forms.

- **Climate change:** in response to climate-linked risks, a comprehensive scoping review on climate change, malaria and NTDs was undertaken by the WHO Task Team on Climate Change, Neglected Tropical Diseases and Malaria, revealing gaps in the understanding of the potential impact of climate change on NTDs and emphasizing the need for further research; in addition, WHO released a global preparedness and response plan for dengue and other Aedes-borne arboviruses, offering a model for managing climate-sensitive diseases through cross-sectoral action.
- **Performance monitoring:** a qualitative assessment of progress towards the targets set out in the road map was conducted using the GAT methodology; the findings identified key needs and priorities across four of the 11 dimensions in the road map – diagnostics, monitoring and evaluation, access and logistics, and advocacy and funding – covering both disease-specific and cross-cutting areas.
- **Gender, equity and human rights (GER):** rights-based advocacy gained traction at the World Health Assembly, the UN Human Rights Council and the UN General Assembly, focusing on pesticide safety in the context of the health of Indigenous Peoples, and discrimination against persons affected by leprosy and their family members. WHO has advocated for the expansion of the GER approach to all NTDs.

## Sustainability and financing trends

As of 2024, 14 African countries have developed national sustainability plans through government-led, partner-

supported processes. These plans facilitated country-level efforts to strengthen skills, reinforce capacities and mobilize resources to sustainably deliver NTD services, increase domestic visibility of NTDs and promote multisectoral collaboration.

Official development assistance (ODA) for NTDs declined by 41% between 2018 and 2023, particularly during the COVID-19 pandemic, reflecting a shrinking fiscal space. This reinforces the need for prioritization, domestic resource mobilization and strategic focus on high-impact interventions.

## Looking forward

While NTD programmes continued to make progress in 2023–2024, performance remains uneven across diseases and domains. Climate change continues to expand vector-borne NTDs into new areas. Geopolitical conflicts, migration, humanitarian crises and instability disrupt access to NTD interventions and services. Persistent data gaps and weak surveillance systems undermine strategic planning and routine programme management. Importantly, without funding mechanisms that empower country ownership and engage affected communities, there is a real risk of stagnation – or even reversal – of hard-won gains.

The next 5 years to 2030 are likely to yield starker contrasts between the challenges described above and the need to sustain momentum as countries edge closer to the elimination and eradication targets. To meet the road map goals for 2030, programmes must remain sharply focused, prioritize critical actions, and fully leverage opportunities for integration and innovation. Strategic planning for the 2025–2030 period will be essential to navigate health system crises, consolidate progress, sustain gains and realize the full ambitions of the road map.

This report presents progress made in 2023–2024. At the time of publication (October 2025), the following events had taken place between January and August 2025. These will be discussed in further detail in the next (2026) report.

- On 13 January 2025, WHO validated Guinea for eliminating the gambiense form of human African trypanosomiasis as a public health problem, and verified Niger as the first country in the African Region to eliminate onchocerciasis
- On 30 January 2025, WHO observed World Neglected Tropical Diseases Day
- On 10 February 2025, WHO and Anesvad Foundation agreed to extend their collaboration on skin NTDs in sub-Saharan Africa
- On 24–26 March 2025, the Second WHO Global Meeting on Skin NTDs was convened to assess the progress made since the launch of the strategic framework for skin NTDs in June 2022
- On 25 March 2025, the WHO Foundation and L'Oréal Dermatological Beauty launched a 4-year partnership to support WHO's efforts to combat common skin diseases, including skin NTDs, and contributing to increasing awareness of the impact of skin diseases globally
- On 5–6 May 2025, WHO convened the first Informal Technical Consultation on Gender, Equity and Human Rights for neglected tropical diseases
- On 9 May 2025, WHO validated Mauritania for eliminating trachoma as a public health problem
- On 16 May 2025, WHO validated Papua New Guinea for eliminating trachoma as a public health problem
- On 21 May 2025, Ministry of Health representatives from various African countries signed a Memorandum of Understanding to eliminate visceral leishmaniasis in eastern Africa and issued a Call for Action for NTD cross-border collaboration
- On 24 May 2025, the Seventy-eighth World Health Assembly adopted two resolutions on “Accelerating the eradication of dracunculiasis (Guinea-worm disease)” and “Skin diseases as a global public health priority”, marking a significant step forward in the fight against NTDs
- On 16 June 2025, WHO validated Kenya for eliminating the rhodesiense form of human African trypanosomiasis as a public health problem
- On 30 June 2025, WHO validated Burundi for eliminating trachoma as a public health problem
- On 4 July 2025, WHO validated Senegal for eliminating trachoma as a public health problem
- Key WHO publications released in January–August 2025 include the Guidelines for the treatment of tungiasis (20 May), the Guidelines for the treatment of cystic echinococcosis (16 June), the Guidelines for clinical management of arboviral diseases: dengue, chikungunya, Zika and yellow fever (4 July) and the general guidance on routine health information system and health facility data for neglected tropical diseases (19 July)
- During the summer of 2025, the Global Neglected Tropical Diseases Programme merged with the Global Malaria Programme as part of WHO's restructuring and realignment process. The new Department of Malaria and Neglected Tropical Diseases (MNT) has been established within the Division of Health Promotion, Prevention and Care (PPC)



During a mass treatment campaign against schistosomiasis in Zanzibar (United Republic of Tanzania), a student's height is measured using the WHO dose pole to calculate the number of praziquantel tablets required.

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*The shifting global health landscape presents both challenges and opportunities. In today's world, marked by financial and geopolitical challenges, we must optimize resources to maximize impact. Despite significant strides towards universal health coverage, health system weaknesses and underutilized opportunities for improving efficiencies continue to hinder access to care for NTDs. Integration must happen at multiple levels within health and community systems, across programmes and among diseases. Mainstreaming of interventions against NTDs into existing national health systems' structures to achieve the 2030 targets could not be more relevant. Let us seize this opportunity to drive momentum and work towards a future free from the burden of NTDs."*

**Dr Jérôme Salomon**

Assistant Director-General  
Universal Health Coverage/Communicable  
and Noncommunicable Diseases,  
WHO, 2023–2025



*"NTDs are directly linked to developmental social determinants of health, thereby mostly affecting impoverished communities with immense difficulties in accessing health care. By providing basic necessities including safe water and sanitation facilities and good health-care systems for vulnerable people, many nations of low- and middle-income status can demonstrably overcome NTDs. The social and economic returns are evidently high for any country that addresses these diseases. Yet effective interventions do not often receive essential backing to support implementation at the scale necessary to enable attainment of the full public health potential and socioeconomic benefits generated by addressing NTDs at population level. Deliberate domestic and international investments are needed to*

*sustainably implement interventions against these diseases. No meaningful milestone in terms of socioeconomic development can be achieved without addressing the health challenges caused by NTDs, which are a tracer for equitable progress towards achieving the Sustainable Development Goals. Therefore, NTDs must be firmly repositioned within the global health architecture, given that interventions against these diseases can contribute to a wide range of ancillary benefits to other programmes within and beyond the health sector."*

**Dr Ibrahima Socé Fall**

Director  
Global Neglected Tropical Diseases  
Programme, WHO, 2022–2025

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# 1. Introduction

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## 1.1 Twenty years of action and data

The WHO Global Neglected Tropical Diseases Programme was established by the Organization's then Director-General Dr Lee Jong-wook in September 2005 – 20 years ago. This action consolidated under the freshly-coined term “neglected tropical diseases” (NTDs) multiple programmes targeting a diverse group of diseases and conditions, recognizing their common features and advocating for their joint control, elimination and eradication (1,2).

The new department of “Control of Neglected Tropical Diseases” was immediately confronted with the need to disseminate information on its scope and goals, to explain what action was being implemented, and to detail its successes and challenges globally, regionally and nationally. This was done, and continues to be done, through a series of reports, in line with similar action taken by other WHO programmes.

Twenty years later, the present document is the seventh global report on NTDs published by WHO. The first series of reports included those published in 2010 (with a 2011 update), 2013, 2015 and 2017; these documents focused on specific thematic areas: the first (2010) discussed how interventions against NTDs had produced an impact; the second (2013) assessed progress in deploying the interventions and detailed the obstacles to their implementation; the third (2015) analysed for the first time the investments needed to support the expansion of interventions required to achieve the targets set in the first WHO road map on NTDs (2012–2020) and universal health coverage; and the fourth (2017) considered the core elements of a strategic vision promoting the integration of NTDs into the 2030

Agenda and the mainstreaming of NTD interventions into the global health and development principles and actions embodied by the Sustainable Development Goals (SDGs).

Since 2023, a new series of reports has provided periodic updates on progress made towards the 2030 targets set out in *Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030* (the road map) (3). The reports published in 2023 and 2024, together with the current one, present quantitative and qualitative information systematically, with the aim of documenting what interventions have been taken by the global NTD community, assessing their impact, evaluating programmatic status in relation to *Ending the neglect to attain the Sustainable Development Goals: a framework for monitoring and evaluating progress of the road map 2021–2030* (the M&E framework) (4), and identifying what corrective action is required.

The quantitative information included has progressively increased since the first report was published in 2010. This reflects efforts to strengthen generation, collection, analysis and dissemination of NTD data at all levels, from community to global.

Although the quantity and quality of NTD data are still far from optimal, we now know more about NTDs and NTD programming than ever before. Nevertheless, large disparities between disease-specific data still exist. This is why one of the key aims of the WHO Global NTD Programme is to fill these diverse gaps and ensure that information on a core number of indicators is available for all NTDs. This report is a contribution to that effort.

## 1.2 Methodology

This report presents epidemiological and programmatic data for 2023 that were gathered, compiled and analysed in 2024 and 2025. In some cases, more recent data than 2023 are presented when available; in other cases, less recent information is included, when 2023 data are not available. The report also presents the main facts or events that occurred in 2024, as well as the values for the overarching, cross-cutting and disease-specific indicators from previous years; these may differ from the values included in previous WHO reports or publications due to updates that have become available since then.

In alignment with the M&E framework (4), the report includes and discusses quantitative information on the status of the overarching, cross-cutting and disease-specific indicators (section 2). This is followed by qualitative information on progress made on each of the three road map pillars (section 3), including updates on technical innovation, normative work, operational support, advocacy, capacity-building, cross-cutting approaches, climate change, performance monitoring, gender, equity and human rights, sustainability and financing trends; and on regional and country progress (section 4). The conclusions of the report (section 5) are complemented by annexes on global financing data extraction and categorization methods (Annex 1), status of donated medicines for treatment of NTDs (Annex 2), articles on NTDs in the Weekly Epidemiological Record (Annex 3), target product profiles published as of 31 December 2024 (Annex 4) and the list of global NTD reports (Annex 5). Details of the rationale, definitions and methodology used to report against the indicators included in this report can be found in *A compendium*

*of indicators for monitoring and evaluating progress of the road map for neglected tropical diseases 2021–2030* (the indicator compendium) (5).

Data and information were submitted by the health authorities of WHO Member States and by those of other countries, territories and areas, as relevant, through different tools and platforms. Global tools and platforms used to report data to WHO include the Global NTD Annual Reporting Form (GNARF), the Preventive Chemotherapy Joint Application Package (JAP), the Trachoma Elimination Monitoring Form (TEMF), the WHO Integrated Data Platform (WIDP) for NTDs and the Global Dengue Surveillance Platform.

Information was also extracted from databases managed by relevant WHO regional offices. Notably these include: in the African Region, the ESPEN (Expanded Special Project for Elimination of Neglected Tropical Diseases) portal for diseases amenable to preventive chemotherapy; in the Region of the Americas, the SisLeish platform for aggregated data on leishmaniasis, the Plataforma de Información en Salud para las Américas (PLISA) for arboviral diseases, the Sistema de Información Regional para la Vigilancia Epidemiológica de la Rabia (SIRVERA) for rabies, and the Pan American Center for Foot-and-Mouth Disease and Veterinary Public Health (PANAFTOSA) for data on echinococcosis; and in the European Region, Surveillance Atlas of Infectious Diseases from the European Centre for Disease Prevention and Control (6).

In this report, reference to “countries” should be understood to signify countries, territories and areas.

# References

1. Savioli L, Montresor A, Gabrielli AF. Neglected tropical diseases: the development of a brand with no copyright. A shift from a disease-centered to a tool-centered strategic approach. In: The causes and impacts of neglected tropical and zoonotic diseases: opportunities for integrated intervention strategies. Washington (DC): National Academies Press; 2011:A19 (<https://www.ncbi.nlm.nih.gov/books/NBK62524/>).
2. Strategic and technical meeting on intensified control of neglected tropical diseases: a renewed effort to combat entrenched communicable diseases of the poor: report of an international workshop, Berlin, 18–20 April 2005. Geneva: World Health Organization; 2006 (<https://iris.who.int/handle/10665/69297>).
3. Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2020 (<https://apps.who.int/iris/handle/10665/338565>).
4. Ending the neglect to attain the sustainable development goals: a framework for monitoring and evaluating progress of the road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2021 (<https://iris.who.int/handle/10665/341313>).
5. A compendium of indicators for monitoring and evaluating progress of the road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2022 (<https://iris.who.int/handle/10665/365511>).
6. Dengue. In: WHO/Global dengue surveillance system [website]. Geneva: World Health Organization ([https://worldhealthorg.shinyapps.io/dengue\\_global/](https://worldhealthorg.shinyapps.io/dengue_global/), accessed 20 June 2025).

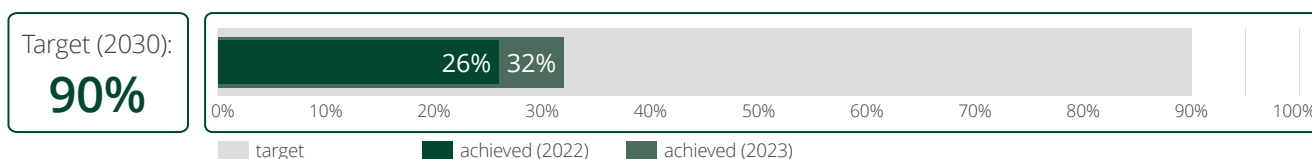
## 2. Status of the global NTD response

This section provides an update on progress made against the quantitative section of the M&E framework (1). Information included relates to the overarching, cross-cutting and disease-specific indicators, together with an update on the number of people treated for NTDs.

### 2.1 Progress against road map indicators 2021–2030

#### 2.1.1 Overarching global indicators and targets for 2030

##### Overarching global indicator 1: Percentage reduction in people requiring interventions against neglected tropical diseases, 2023 versus 2010



Interventions against NTDs include mass or individual treatment and care (2). As these interventions can be curative or preventive, the number of people requiring NTD interventions is larger than the number of people affected by NTDs by approximately 1.5 times.

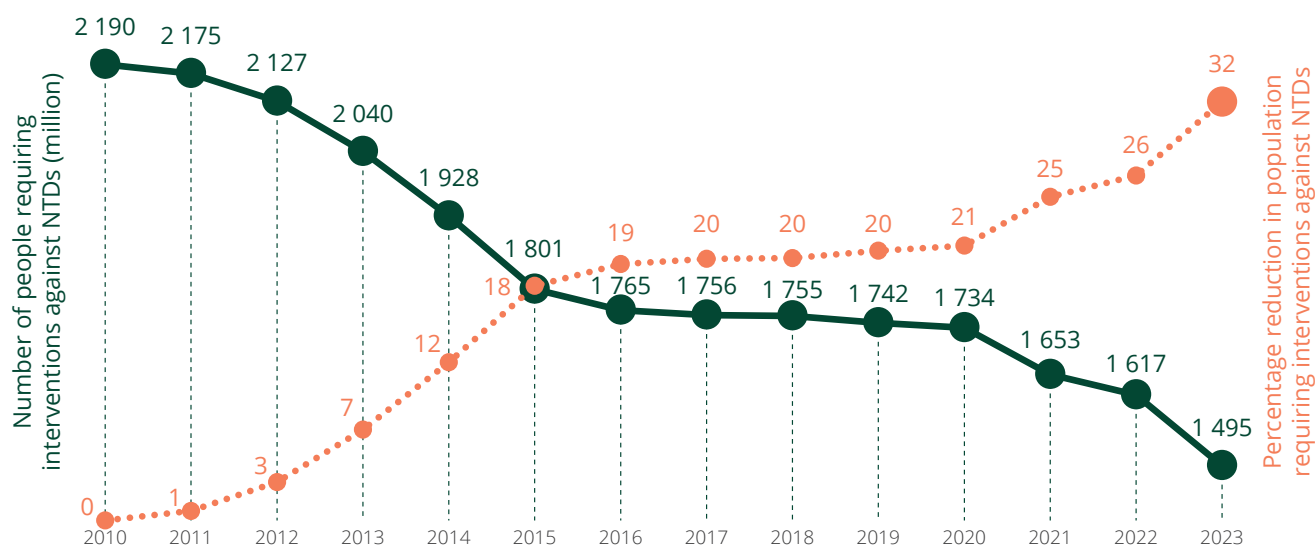
The number of people requiring interventions against NTDs is largely driven by those requiring preventive chemotherapy, which constitute over 99% of the total. In 2023, the total number of people requiring NTD interventions was 1.495 billion, of whom approximately 1.493 billion required preventive chemotherapy. The number of those requiring individual disease management was approximately 7.5 million, of whom about two thirds (5 million people) required both types of interventions and are not double counted; conversely, one third (2.5 million) required individual disease management only, and are therefore added.

In 2010 (the baseline year), the estimated number of people requiring interventions against NTDs was 2.190 billion. This number was calculated based on available epidemiological data reported to WHO by Member States, or collected through scientific publications and open data sources. Progressively, when mapping for endemic disease was completed and new epidemiological data had been collected, this indicator

was revised on an annual basis. The JAP was introduced as a standard reporting tool for the NTDs amenable to preventive chemotherapy (the so-called PC-NTDs) in 2013. It enabled countries to provide more precise and complete data, which allowed WHO to analyse the epidemiological situation for each disease in detail and identify areas of co-endemicity. This informed further revisions of this indicator, and explains the decrease in its value observed between 2010 and 2015. This phase was followed by a plateau in 2015–2020, a period during which many countries were scaling-up interventions but while NTD programmes were still not sufficiently mature to produce a marked impact on this indicator. From 2020 onwards, at the onset of the road map, the impact of these programmes has become more substantial and the decrease in the number of people requiring NTD interventions has accelerated in the past few years (122 million fewer people required treatment between 2022 and 2023).

In 2023, 1.495 billion people were reported to require mass or individual treatment and care for NTDs. Globally, this corresponds to a 32% decrease from 2010, and represents major progress compared with 2022 (when the number was 1.617 billion and the decrease from 2010 was 26%) (Fig. 2.1).

**Fig. 2.1. Number of people requiring interventions against NTDs in 2010–2023 and percentage reduction since 2010**



Data source: WHO/Global Health Observatory

The reduction in the number of people requiring interventions against NTDs is even more remarkable in the context of the overall increase in the world's population (from approximately 7 billion in 2010 to 8 billion in 2023); between those years, the share of the global population requiring interventions against NTDs was reduced from 31.2% to 18.5%.

Of the 1.495 billion people requiring treatment for NTDs in 2023, the largest share lived in the South-East Asia Region (788 million, 52.7%), followed by the African (519 million, 34.7%), Eastern Mediterranean (78 million, 5.2%), Western Pacific (74 million, 5%), Americas (30 million, 2%) and European (6 million, 0.4%) regions (Fig. 2.2).

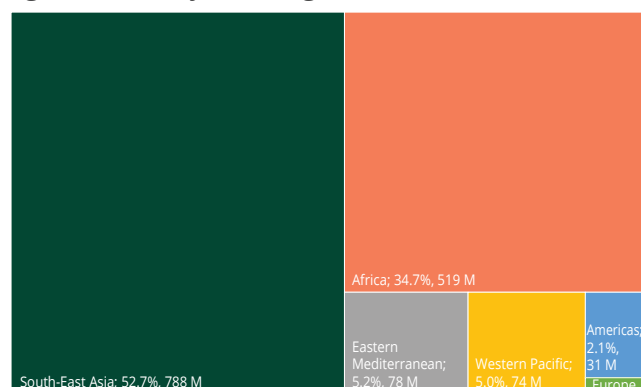
In general, the main drivers of the reduction in the number of people requiring interventions against NTDs are the progressive attainment of end-point programmatic targets (interruption of transmission, elimination as a public health problem) by countries, which leads to stopping interventions and starting post-intervention surveillance status, eventually followed by post-elimination surveillance; and the reclassification

of endemic areas from requiring to not requiring interventions because of improvement in epidemiological conditions or, for some diseases, better access to water and sanitation.

Between 2022 and 2023, 52 countries recorded a decrease in the number of people requiring NTD interventions. The largest reductions occurred in Nigeria (–46.4 million), India (–34.5 million), Mexico (–19.7 million), Indonesia (–10.5 million) and Niger (–5.2 million). These major reductions exceeded the increases in populations requiring NTD interventions registered in 105 other countries, such as Bangladesh (+3.3 million), Afghanistan (+2.6 million), the Democratic Republic of the Congo (+2 million), Kenya (+1.9 million) and Chad (+1.7 million); 37 countries reported no variations in this indicator between 2022 and 2023 (2).

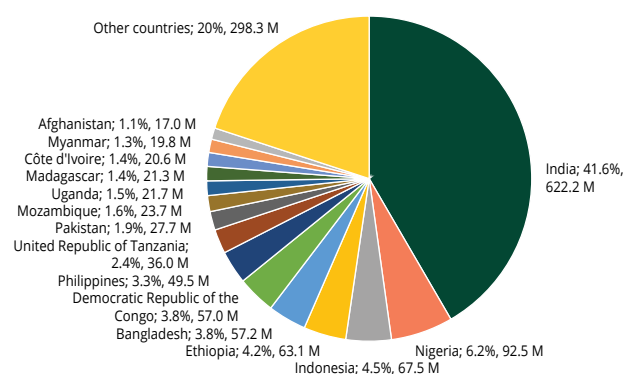
This indicator, although global, is in fact highly dependent on variations in high-burden countries (i.e. countries with a large number of people requiring NTD interventions); as of 2023, the 15 highest-burden countries (Fig. 2.3) hosted over 80% of the population requiring interventions.

**Fig. 2.2. Number of people requiring interventions against NTDs by WHO region, 2023**



Data source: WHO/Global Health Observatory

**Fig. 2.3. Population requiring interventions against NTDs in 2023, by country (percentage and number)**

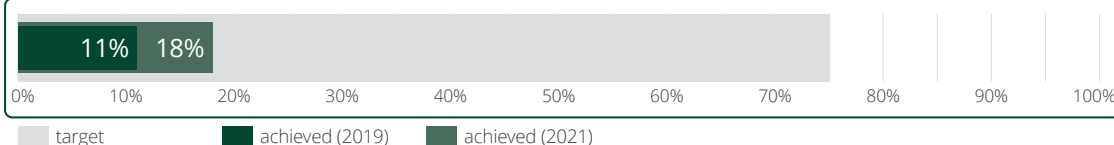


Data source: WHO/Global Health Observatory

## Overarching global indicator 2: Percentage reduction in disability-adjusted life-years related to neglected tropical diseases, 2021 versus 2015

Target (2030):

**75%**



### Data sources and understanding the burden of NTDs

This analysis draws on data from two main sources: (i) disability-adjusted life years (DALYs), years of life lost (YLL) and deaths based on WHO's Global Health Estimates (GHE) (3); and (ii) prevalence data obtained from the Global Burden of Disease (GBD) study published by the Institute for Health Metrics and Evaluation (IHME) (4).

### Understanding DALYs: measuring the burden of NTDs

DALYs are a key metric for assessing the overall burden of NTDs. DALYs quantify the years of life affected by, or lost due to, illness, disability and premature death, offering a comprehensive picture of how NTDs impact health and well being. Unlike traditional mortality statistics, DALYs capture both fatal and non-fatal disease burden, making them essential for policy decisions, resource prioritization and monitoring progress towards the NTD elimination targets.

In this report DALYs are examined in two ways:

- by total DALYs (in millions), which represent the absolute burden of disease across countries and regions, identifying those NTDs with the highest total impact due to DALY rate and disease prevalence; and
- by DALY rates (per 100 000 population). This standardized measure accounts for population size, highlighting countries where NTDs impose the greatest burden per-capita; this is particularly useful for identifying smaller nations or highly affected regions where NTDs remain a significant public health threat. Additionally, it enables comparison of per-capita disease burden across different NTDs globally, supporting prioritization of resources and interventions based on relative impact rather than absolute numbers.

### Overall trend: declining DALYs but slower progress in recent years

Between 2015 and 2021, the global burden of NTDs, measured in DALYs, declined from 17.18 million to 14.14 million, an overall reduction of 3.04 million DALYs (18%) across 14 groups of NTDs (covering 16 diseases<sup>1</sup> with available estimates), averaging approximately 0.51 million DALYs per year (Fig. 2.4).

Progress was more pronounced for reductions in premature mortality than for reductions in disability, as YLLs decreased from 7.77 to 6.21 million (–1.56 million; –20%), whereas years lived with disability (YLDs) decreased from 9.41 to 7.93 million (–1.48 million; –15.7%). As a result, the share of DALYs attributable to YLDs increased slightly, from 54.8% in 2015 to 56.1% in 2021 (Table 2.1).

The current average annual rate of DALY reduction between 2015 and 2021 is approximately 0.51 million DALYs per year (3.33% per year). However, the pace of progress has slowed in recent years. Most of the reduction occurred between 2015 and 2019, when the overall decrease was 2.57 million DALYs (0.64 million per year). Conversely, the overall reduction was only 0.47 million DALYs between 2019 and 2021, an annual average of just 0.24 million. This deceleration coincided with the COVID-19 pandemic, which disrupted health

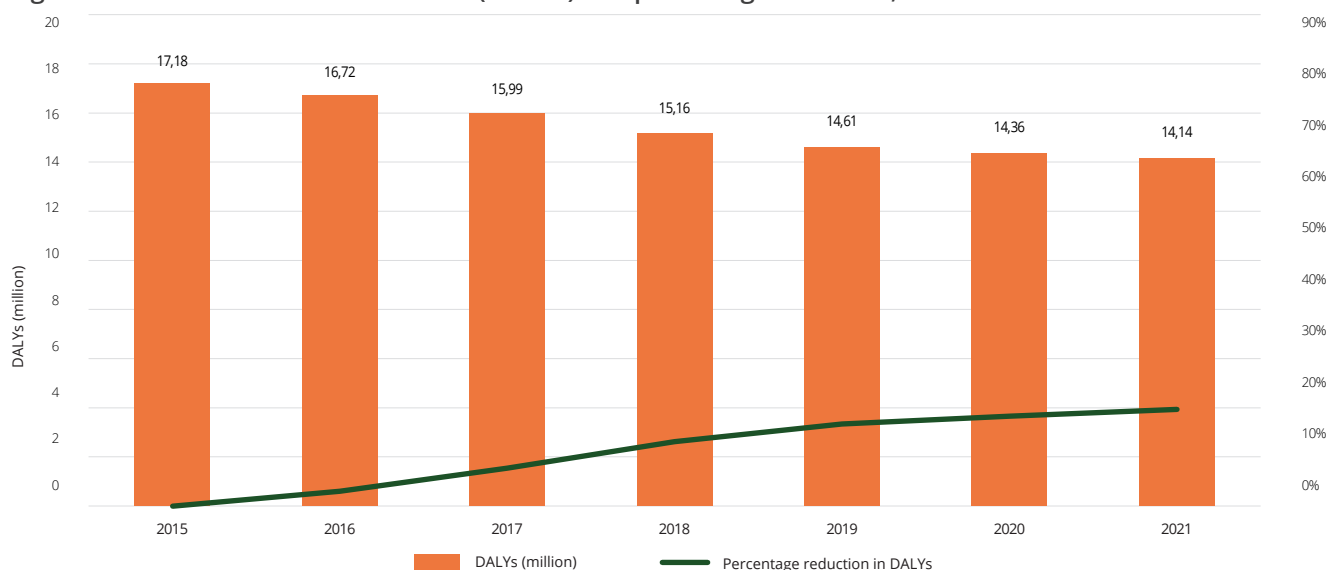
**Table 2.1. YLDs, YLLs and DALYs related to NTDs, 2015–2021**

| Year | YLD (million) | YLL (million) | DALYs (million) | % YLD | % YLL |
|------|---------------|---------------|-----------------|-------|-------|
| 2015 | 9.41          | 7.77          | 17.18           | 54.8% | 45.2% |
| 2016 | 9.20          | 7.51          | 16.72           | 55.0% | 45.0% |
| 2017 | 8.74          | 7.25          | 15.99           | 54.6% | 45.4% |
| 2018 | 8.25          | 6.91          | 15.16           | 54.4% | 45.6% |
| 2019 | 7.99          | 6.61          | 14.61           | 54.7% | 45.3% |
| 2020 | 7.98          | 6.38          | 14.36           | 55.6% | 44.4% |
| 2021 | 7.93          | 6.21          | 14.14           | 56.1% | 43.9% |

DALYs: disability-adjusted life years; YLD: years lived with disability; YLL: years of life lost.

<sup>1</sup> Ascariasis, Chagas disease, cysticercosis, dengue, echinococcosis, foodborne trematodiasis, hookworm disease, human African trypanosomiasis, leishmaniasis, leprosy, lymphatic filariasis, onchocerciasis, rabies, schistosomiasis, trachoma, trichuriasis.

**Fig. 2.4. Global reduction in NTD DALYs (million) and percentage reduction, 2015–2021**



Data source: WHO/Global Health Estimates

services, delayed interventions and temporarily altered health-seeking behaviours.

Sustaining and accelerating progress will require resilient, well-targeted interventions. A dual strategy that continues to reduce mortality while also scaling up morbidity management and rehabilitation services is needed to address the growing share of non-fatal NTD burden. Strengthening health systems and ensuring equitable access to services remain critical for achieving the 2030 road map target of a 75% reduction in DALYs.

To meet this target – from the 2015 baseline of 17.18 million to approximately 4.3 million DALYs by 2030 – the average annual reduction from 2021 onwards must reach 12.28% per year or 1.093 million DALYs per year. This is nearly four times higher than the average annual reduction of 3.13% observed from 2015 to 2021, underscoring the urgency of intensified and sustained efforts to reduce the burden of NTDs.

### ***Global progress in reducing the NTD burden***

Building on the observed global decline in DALYs between 2015 and 2021, a closer look at individual diseases reveals important patterns in both absolute and per-capita burdens. In 2021, the highest contributors to the global NTD burden (Fig. 2.5 and 2.6) were as follows:

- rabies: 2.60 million DALYs (down from 3.29 million in 2015 and 2.83 million in 2019);
- schistosomiasis: 1.86 million DALYs (down from 2.16 million in 2015 and 1.93 million in 2019); and
- dengue: 1.75 million DALYs (down from 2.18 million in 2015 and 1.91 million in 2019).

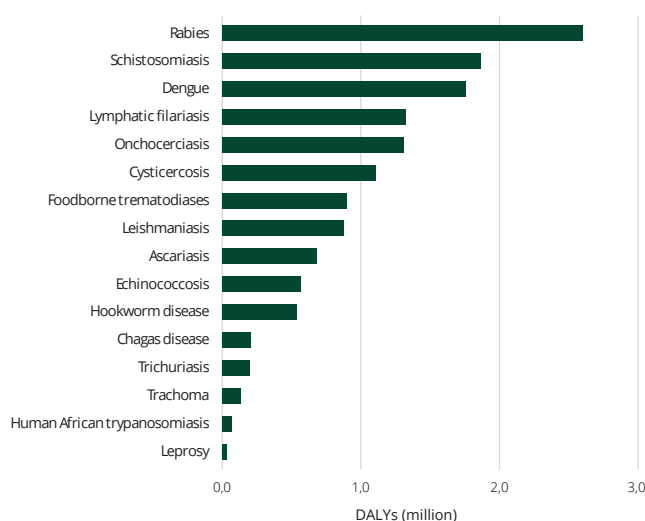
Although these three diseases represented the largest absolute DALY burdens, they also showed steady reductions, suggesting the impact of ongoing control programmes. Other diseases exceeding 1 million DALYs in 2021 include (in this order) lymphatic filariasis, onchocerciasis, cysticercosis and the soil-transmitted helminthiasis grouped together (ascariasis, hookworm disease and trichuriasis), which continue to demand focused attention.

### ***Global-level DALY rates (per 100 000 population)***

Looking beyond total burden, DALY rates (per 100 000 population) offer a standardized way to assess the average health loss per person, regardless of how widespread a disease may be. Since the same global population is used in the calculation for each disease, this metric enables consistent comparisons of per-capita impact. It helps identify which diseases cause the greatest health loss on average, even if they vary in geographical distribution or total caseload. While it does not adjust for differences in population size across diseases, it remains useful for highlighting the individual share of burden of disease that each person bears, irrespective of whether they are affected or not by the disease.

Globally, rabies has the highest per-capita burden among all NTDs (32.8 DALYs per 100 000 population), reflecting its extreme lethality and impact in countries with limited access to post-exposure prophylaxis (PEP). This is followed by schistosomiasis (23.6) and dengue (22.2), both of which have widespread distribution and contribute significantly to health loss across endemic regions. Lymphatic filariasis (16.7) and onchocerciasis (16.5) also record high per-capita DALY rates, indicating persistent morbidity despite progress in control.

Fig. 2.5. DALYs by disease globally, 2021



Data source: WHO/Global Health Estimates

Cysticercosis (14.0), foodborne trematodiasis (11.3) and leishmaniasis (11.1) form a mid-tier group, each causing more than 10 DALYs per 100 000 population. These diseases often reflect concentrated burdens in specific geographical or ecological contexts. Diseases such as ascariasis (8.6), echinococcosis (7.2) and hookworm disease (6.8) represent lower-middle levels of per-capita burden, though still affecting millions. At the lower end of the spectrum are Chagas disease (2.6), trichuriasis (2.5), trachoma (1.7), human African trypanosomiasis (0.87) and leprosy (0.36), each contributing relatively low DALY rates globally. These values suggest progress in control and case reduction, limited geographical scope or relatively lower health loss per affected individual.

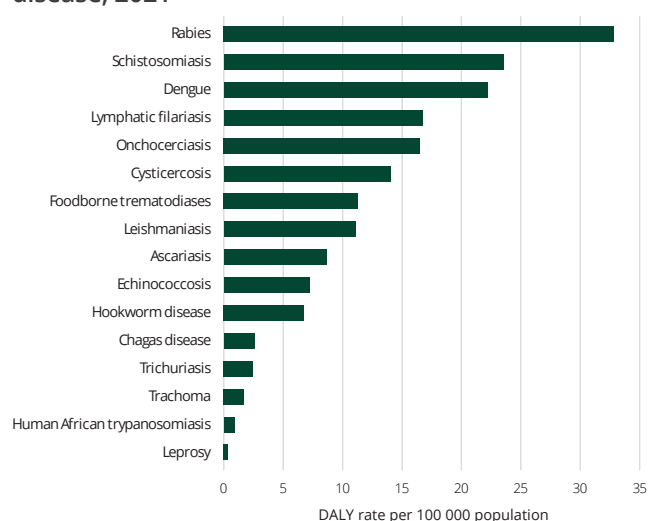
### Country-level DALYs: revealing intensity and scale

While global DALY rates offer a useful overview of disease severity across the NTD portfolio, they often mask substantial variation at the national level. Country-level analysis reveals where the burden is most concentrated, both in terms of how intensely individuals are affected and in how significantly national health systems are impacted.

As shown in Fig. 2.7 (stacked bar chart of DALY rates), countries such as the Central African Republic, the Democratic Republic of the Congo, Liberia and South Sudan show exceptionally high per-capita burdens, all exceeding 1000 DALYs per 100 000 population, with South Sudan surpassing 2000 DALYs per 100 000. In these countries, onchocerciasis is the dominant contributor (with more than 60 times the global average of 16.5 DALYs per 100 000), highlighting intense localized transmission.

Several countries show disproportionately high per-capita burden from rabies, a preventable yet deadly

Fig. 2.6. DALY rates (per 100 000 population) by disease, 2021



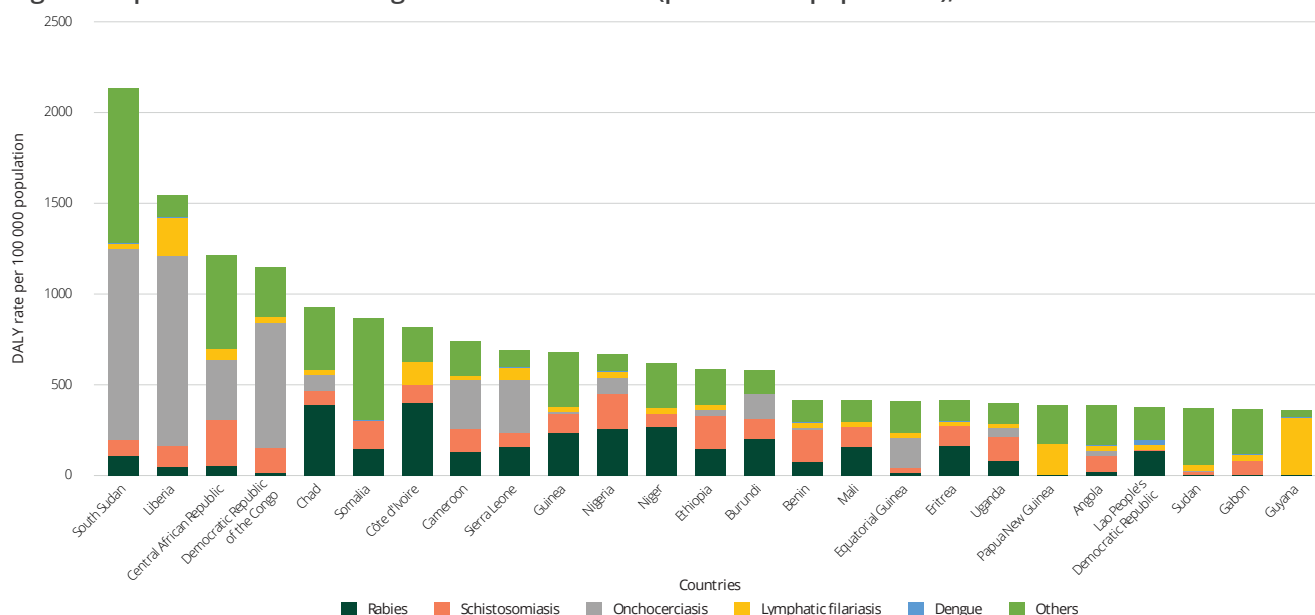
Data source: WHO/Global Health Estimates

disease. Côte d'Ivoire, for instance, records the highest rabies burden globally (398.78 DALYs per 100 000 population), more than 12 times the global average (32.8).

In addition to onchocerciasis and rabies, several countries show high per-capita burdens from lymphatic filariasis (LF). While the global average DALY rate for LF is 16.7 per 100 000 population, countries such as Guyana (318.3), Liberia (207.2), Fiji (201.6), Timor-Leste (199.0) and Papua New Guinea (165.3) record LF DALY rates that are 10 to 19 times higher than the global average (16.7). These countries illustrate how LF can impose an intense localized burden, especially in small island states and settings with limited access to morbidity management and vector control. In Côte d'Ivoire, LF also contributes significantly (125.5 per 100 000 population), alongside high burdens from rabies and schistosomiasis. These elevated rates underscore the importance of sustaining LF elimination efforts and strengthening morbidity management in endemic areas that remain disproportionately affected.

Although countries such as the Comoros, Indonesia, the Philippines, the Seychelles and Tonga do not rank among the top 25 countries for total NTD DALY rates they have exceptionally high per-capita burdens from dengue. For instance, Tonga shows a dengue DALY rate of 166 per 100 000, which is more than seven times the global average (22.2). Similarly, Indonesia (144), Comoros (119), the Philippines (93) and the Seychelles (119) all record dengue DALY rates that are 4–6 times higher than the global average. These patterns highlight localized dengue hotspots in the Pacific and South-East Asia, where seasonal transmission, rapid urbanization and climate factors contribute to sustained burden. While their overall NTD burden may be lower than in other high-ranking countries, these nations require disease-specific

**Fig. 2.7. Top 25 countries with highest NTD DALY rates (per 100 000 population), 2021**



Data source: WHO/Global Health Estimates

strategies and strengthened dengue surveillance and control to reduce the disproportionate impact of this vector-borne disease.

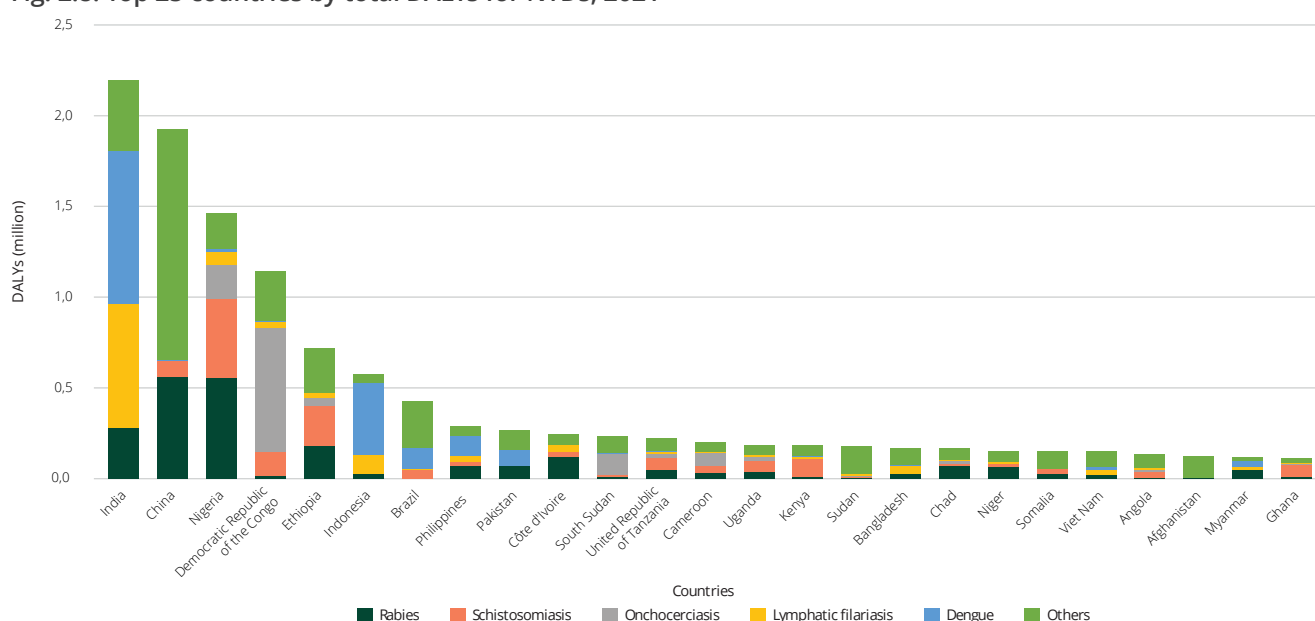
Conversely, Fig. 2.8 (stacked bar chart of total DALYs in millions) presents a view of scale, highlighting where the absolute burden of NTDs is highest. India, China and Nigeria emerge as the top three contributors to the global NTD burden, reflecting both their large populations and the widespread prevalence of multiple diseases such as dengue, lymphatic filariasis and schistosomiasis.

Other high-burden countries include the Democratic Republic of the Congo and Ethiopia, which face

persistent co-endemic transmission of NTDs across broad geographical areas.

Countries such as Brazil, Indonesia and the Philippines also feature prominently, with high burdens associated particularly with dengue, rabies and/or lymphatic filariasis. These countries underscore the importance of tailored NTD responses in both urban and rural settings with diverse transmission dynamics. Yet countries such as Equatorial Guinea, Liberia and South Sudan, though contributing relatively small total DALY numbers, rank among the highest in per-capita burden, demonstrating that even countries with smaller populations may carry an extreme health loss per person. These contrasts highlight the need to look beyond total burden when

**Fig. 2.8. Top 25 countries by total DALYs for NTDs, 2021**



Data source: WHO/Global Health Estimates

setting priorities, ensuring that countries with intense localized transmission and high individual-level burden are not overlooked in global and regional NTD strategies.

Furthermore, the data reveal that many of these high-burden countries are affected by multiple endemic NTDs, reinforcing the value of integrated approaches. Pursuing multiple disease elimination through coordinated case detection, joint planning and shared delivery platforms offers a strategic and cost-effective path forward. Tailoring these efforts to address both the scale and the intensity of disease burden can maximize programmatic impact, strengthen national health systems, and ensure that progress towards the 2030 road map targets is both equitable and sustainable.

### **Reduction in DALYs by disease**

Progress also varied significantly across diseases (Fig. 2.9). Globally, between 2015 and 2021, human African trypanosomiasis showed the largest percentage reduction, with DALYs dropping by 59.7%, highlighting the success of sustained elimination efforts. Lymphatic filariasis followed with a 36.4% reduction.

Among the soil-transmitted helminthiasis, hookworm disease demonstrated the most significant decline (29.9%), while ascariasis decreased by 21.0% and trichuriasis by only 5.6%. Together, these infections continue to represent a major disease cluster. In 2021, their combined burden remained substantial, with over 1.4 million total DALYs, yet they vary in per-capita burden. Ascariasis has the highest per-capita impact among the three.

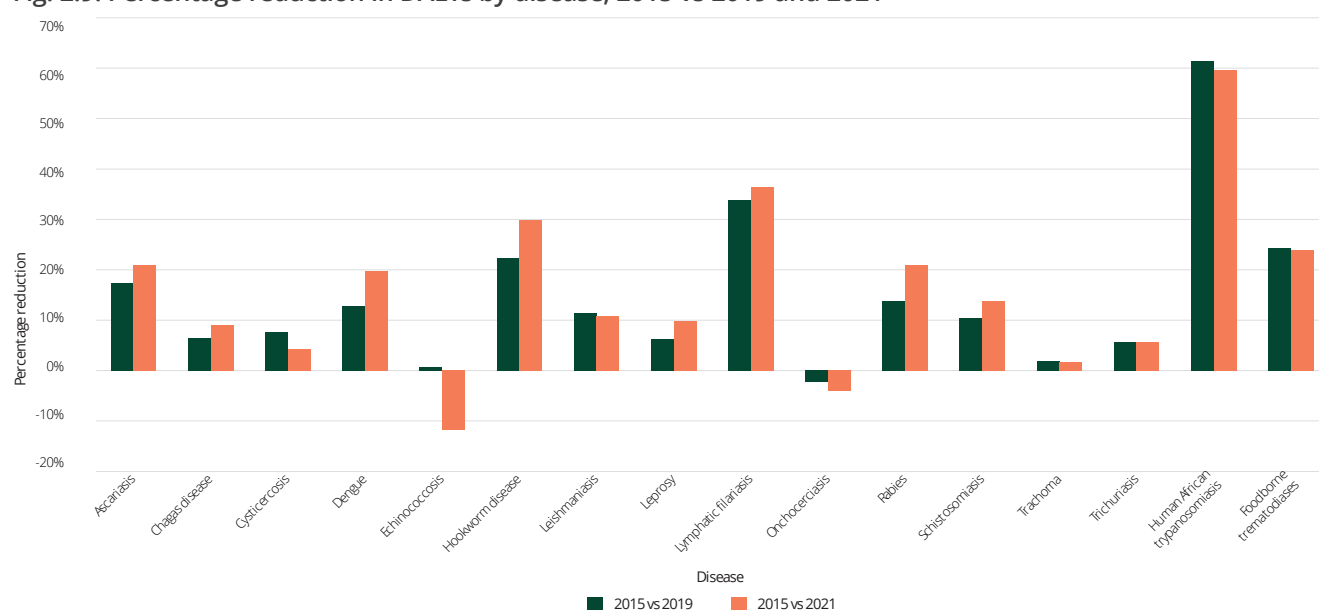
Moderate reductions (10–25%) were observed for other high-burden diseases, including

foodborne trematodiasis (23.9%), rabies (20.9%), schistosomiasis (13.7%) and dengue (19.7%). A few diseases showed limited or minimal progress, such as cysticercosis (4.2% reduction), trachoma (1.7%) and trichuriasis (5.6%). Notably, echinococcosis and onchocerciasis were the only diseases that recorded negative values, with DALYs increasing by 11.8% and 4.1% respectively, compared with 2015.

Over the past 35 years, the burden of onchocerciasis – measured in DALYs – has declined significantly, largely due to sustained vector control and mass drug administration (MDA) with ivermectin. In 1990, prior to the scale-up of MDA programmes, an estimated 2.5 million DALYs were lost (5), with 23.4 million people infected (GBD 2021). By 2021, the number of infected individuals had decreased to 19.6 million (GBD 2021), and DALYs lost had fallen to 1.31 million (GHE 2021). However, when using 2015 as the baseline year for monitoring progress, as defined by the road map, the burden of disease shows a relative increase in both DALYs and prevalence by 2021. This apparent rise is partly attributable to increased population size in areas already mapped, and partly to improved surveillance and mapping, as well as to the methodology used, which may not fully reflect the impact of control programmes.

For example, improved surveillance and mapping in the Democratic Republic of the Congo generated data which contributed to the higher figures observed in recent years. Methodologies used to estimate the burden of onchocerciasis are currently being revised to incorporate time trends estimated using geospatial modelling, and therefore will better reflect the impact of disease control efforts over the past decade. Projections for 2030 remain optimistic (5); with intensified MDA coverage and

**Fig. 2.9. Percentage reduction in DALYs by disease, 2015 vs 2019 and 2021**



Data source: WHO/Global Health Estimates

Note: A negative percentage indicates an increase in DALYs, meaning the estimated disease burden grew during the period or there was no reduction.

expanded vector control efforts, further reducing the disease burden is possible.

Overall, while meaningful gains have been made in reducing the NTD burden, the uneven pace across diseases and regions underscores the importance of targeted, disease-specific strategies, especially for diseases with persistent per-capita impact or slow progress. Sustained investments and tailored interventions will be essential to accelerate reductions and move closer to the 2030 road map targets.

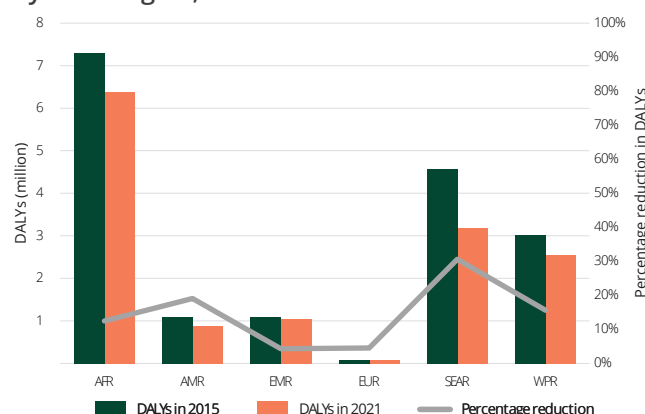
## Regional progress: uneven gains across WHO regions 2015–2021

While some regions are leading the way in reducing the NTD burden, others facing structural challenges, weak healthcare systems and conflicts that disrupt intervention programmes have lagged behind. These regional trends in total DALYs, however, are also influenced by underlying demographic changes. While per-capita DALY rates may decline due to improved prevention and treatment, population growth can offset these gains, particularly at the country level, resulting in total DALYs that remain stable or even increase. At the regional level, total DALYs may still decline if the reduction in per-capita burden outweighs population growth. Acknowledging this dynamic is essential for interpreting regional reductions accurately.

The overall distribution of DALYs attributable to NTDs across WHO regions remained largely unchanged between 2015 and 2021 (Fig. 2.10). The African Region continued to bear the highest share of the global NTD burden, accounting for 45.2% in 2021 compared with 42.5% in 2015. The South-East Asia Region, despite having the largest population requiring NTD interventions, contributed 22% of global NTD DALYs in 2021 (26.6% in 2015), followed by the Western Pacific (18.1% and 17.6%), Eastern Mediterranean (7.4% and 6.4%), Americas (6.3% and 6.4%) and European regions (0.6% and 0.5%).

- The South-East Asia Region has made the most significant progress, with a 30.6% reduction in DALYs between 2015 (4.6 million) and 2021 (3.2 million), largely due to reductions in DALYs in Bangladesh, Bhutan, the Democratic People's Republic of Korea, India, Indonesia,<sup>1</sup> Nepal and Thailand. However, this region still needs to reduce its burden by an additional 37.0% to meet the 75% reduction target by 2030.

**Fig. 2.10. Total NTD DALYs and percentage reduction by WHO region, 2015 vs 2021**



AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

Data source: WHO/Global Health Estimates

- The Region of the Americas followed with a 19.1% DALY reduction from 1.1 million in 2015 to 0.9 million in 2021.
- The Western Pacific Region has achieved a 15.6% DALY reduction from 3.0 million in 2015 to 2.6 million in 2021.
- The African Region has seen a DALY reduction of 12.5% from 7.3 million in 2015 to 6.4 million in 2021, but remains the region most burdened by schistosomiasis (1.6 million DALYs), onchocerciasis (1.3 million) and rabies (1.4 million).
- The European Region, despite a lower burden overall, has only achieved a 4.5% reduction from 84K in 2015 to 80K in 2021.
- The Eastern Mediterranean Region continues to struggle, with just a 4.3% DALY reduction from 1.1 million in 2015 to 1 million in 2021 and even stagnant progress (–0.01%) between 2015 and 2019, largely due to conflict-driven healthcare disruptions.

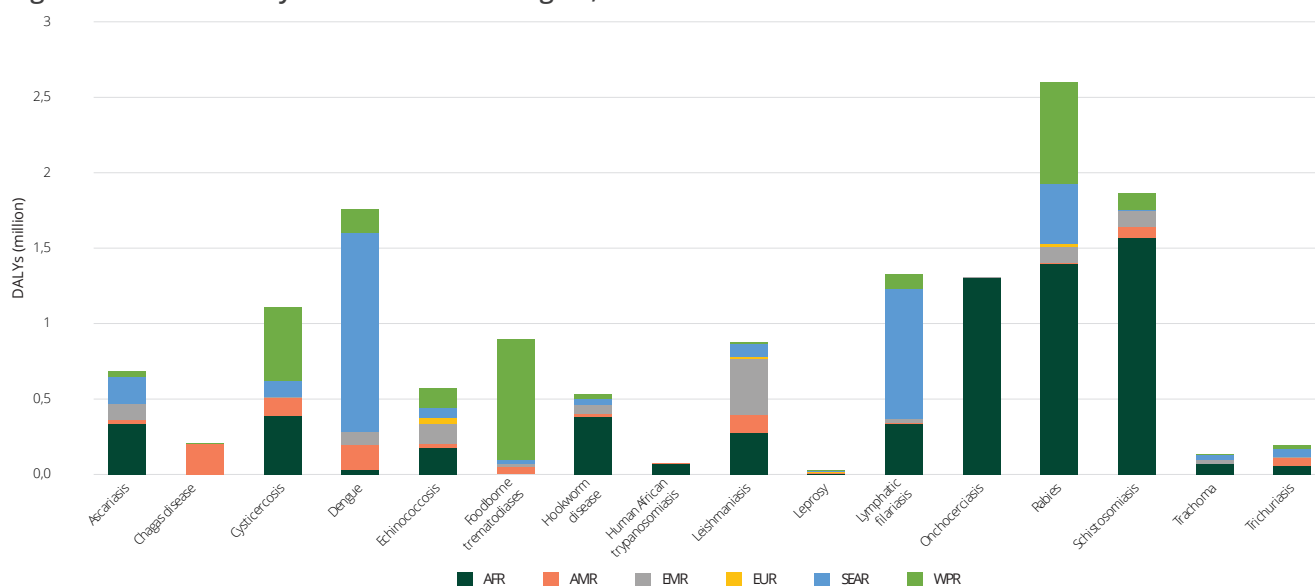
The differences across regions highlight the importance of tailoring strategies to local contexts, ensuring that fragile and conflict-affected areas receive targeted support to prevent stagnation in NTD progress (Fig. 2.11).

The African Region remains the most heavily burdened, accounting for the majority of global DALYs across several high-impact NTDs. Schistosomiasis, rabies, onchocerciasis, soil-transmitted helminthiasis (ascariasis, hookworm disease and trichuriasis), cysticercosis, lymphatic filariasis and leishmaniasis dominate the region's disease profile, reflecting widespread endemicity and persistent transmission despite decades of control efforts.

The Region of the Americas is strongly affected by Chagas disease and dengue, which represent the largest

<sup>1</sup> In accordance with resolution WHA78.25 (2025), Indonesia was reassigned to the WHO Western Pacific Region as of 27 May 2025.

**Fig. 2.11. Total DALYs by disease and WHO region, 2021**



AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

Data source: WHO/Global Health Estimates

share of its NTD burden. Other notable contributors include leishmaniasis and cysticercosis, many of which are linked to zoonotic or vector-borne transmission in rural and periurban areas.

The Eastern Mediterranean Region shows a diverse burden profile, with moderate contributions from leishmaniasis, soil-transmitted helminthiasis (ascariasis, hookworm disease and trichuriasis), echinococcosis, schistosomiasis and rabies.

The European Region has the lowest overall DALY contribution, but some burden persists for echinococcosis, leishmaniasis, rabies, cysticercosis and foodborne trematodiasis, reflecting the continued relevance of NTD surveillance in non-endemic and migrant-receiving settings.

In the South-East Asia Region, dengue, lymphatic filariasis, rabies and soil-transmitted helminthiasis (ascariasis, trichuriasis and hookworm) remain leading causes of DALYs, along with cysticercosis and leishmaniasis. This region has demonstrated broad progress but still accounts for a substantial portion of the global NTD burden due to its large population size.

The Western Pacific Region bears the largest share of the global burden of foodborne trematodiasis. This group of conditions also leads in terms of regional NTD burden, followed by rabies, cysticercosis, dengue, echinococcosis and schistosomiasis. While many countries in the region have lower per-capita rates, population density and urban transmission sustain a high absolute DALY load for selected diseases.

## NTD-related deaths and years of life lost

While the global DALY burden has been declining, NTD-related deaths continue to contribute significantly to premature mortality, representing millions of YLLs annually.

In 2021, NTDs were responsible for 119 000 estimated deaths from 12 diseases and 6.2 million YLLs (accounting for 43.9% of the total DALYs that year). This represents continued improvement from the 123 000 deaths and 6.6 million YLLs in 2019 and the estimated 139 000 deaths and 7.8 million YLLs in 2015.

However, certain diseases remain major drivers of premature mortality, partly due to age structure (i.e. the higher share of young people in the population), resulting in disproportionately high YLLs:

- Rabies: 44 000 estimated deaths in 2021 (down from 55 000 in 2015 and 48 000 in 2019), resulting in 2.6 million YLLs – indicating an average of ~59 years lost per death, highlighting the burden on children and adolescents.
- Dengue: 24 000 estimated deaths in 2021 (down from 29 000 in 2015 and 26 000 in 2019), contributing to 1.2 million YLLs – ~50 years lost per death.
- Schistosomiasis: 14 000 estimated deaths in 2021 (down from 15 000 in 2015 and up from 14 000 in 2019), resulting in over 600 000 YLLs – ~42 years lost per death.

These figures underscore the substantial lifetime impact of NTD-related deaths and the urgency of continued investment in interventions that target early and high-risk mortality.

Fig. 2.12 presents the estimated number of deaths attributed to selected NTDs in 2015–2021. The data include annual estimated deaths from the GHE for 16 diseases (ascariasis, Chagas disease, cysticercosis, dengue, echinococcosis, foodborne trematodiasis, hookworm disease, human African trypanosomiasis, leishmaniasis, leprosy, lymphatic filariasis, onchocerciasis, rabies, schistosomiasis, trachoma and trichuriasis). Trachoma reported zero deaths in 2019 and 2021; zero deaths from foodborne trematodiasis, hookworm disease, onchocerciasis and trichuriasis were reported in 2015–2021.

## NTD prevalence: where we are now

To complement the DALY analysis, prevalence data from the GBD 2021 study were used to calculate how many people are currently living with one or more NTDs. This dataset includes annual prevalence estimates for 19 NTDs from 1990 to 2021.<sup>1</sup>

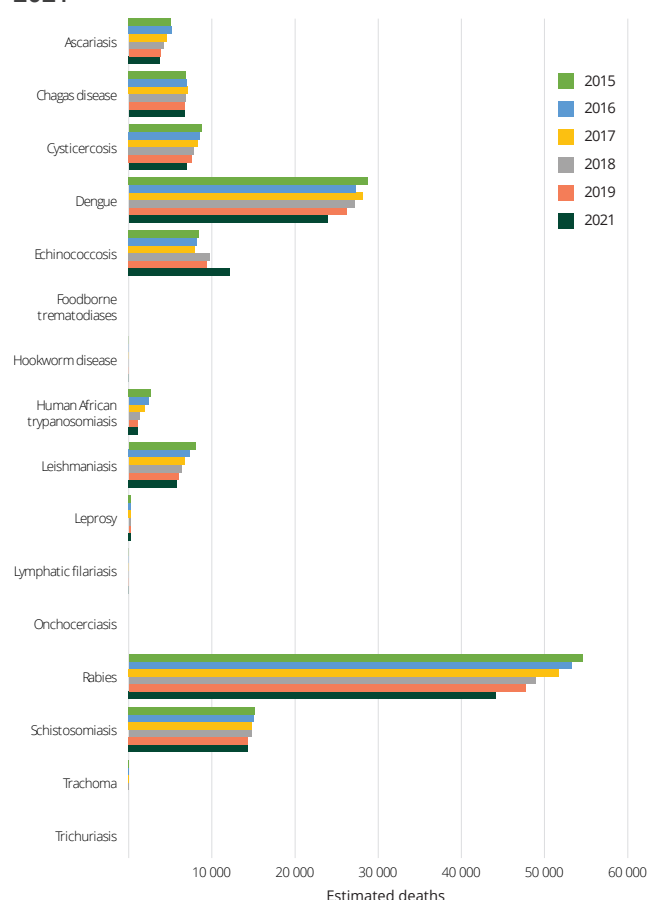
The historical trend (1990–2021) shows a clear decline in the number of people affected by NTDs globally. In 2021, the diseases with the highest prevalence were soil-transmitted helminthiasis – including ascariasis (293.8 million), trichuriasis (255.9 million), and hookworm disease (112.8 million) – as well as scabies (206.5 million), schistosomiasis (151.4 million), lymphatic filariasis (56.9 million) and foodborne trematodiasis (44.5 million). Together, these conditions accounted for the largest share of global NTD prevalence.

In order to calculate the prevalence of infection with at least one NTD,<sup>2</sup> it is important to note that disease-specific prevalence estimates cannot be simply summed up, as this would be based on the assumption that no overlap exists across diseases and would thus result in a “minimal-overlap” scenario that likely overestimates the true number of unique individuals affected. To contextualize this limitation, three coinfection scenarios are considered, as summarized in Table 2.2.

Based on the GBD 2021 prevalence estimates, the burden of NTDs varies significantly depending on assumptions about how coinfection overlaps:

- The minimal-overlap scenario (i.e. the sum of all disease prevalences, assuming no coinfection) estimates approximately 1.17 billion affected individuals (1 173 948 262).

**Fig. 2.12. Estimated deaths related to NTDs, 2015–2021**



Data source: WHO/Global Health Estimates

- The independence-based scenario, which assumes that coinfections occur randomly and independently, yields a more conservative estimate of 1.08 billion (1 080 735 275).
- The maximal-overlap scenario, assuming all diseases affect the same individuals, results in about 596 million affected individuals (595 712 309).

These figures highlight the uncertainty surrounding the true number of unique individuals affected by one or more NTDs. This range-based approach provides a more realistic view of disease burden, particularly in regions with high co-endemicity, where multiple NTDs such as schistosomiasis, soil-transmitted helminthiasis and onchocerciasis frequently affect the same populations. Using overlapping burden scenarios helps avoid inflated totals and supports more informed decisions on funding, planning and priority setting.

Longitudinally, from 1990 to 2021, all three coinfection scenarios demonstrated declining prevalence rates despite a steadily increasing global population (from approximately 5.3 billion to 7.9 billion, with an average of 6.59 billion).

<sup>1</sup> (Human) African trypanosomiasis, ascariasis, Chagas disease, cutaneous and mucocutaneous leishmaniasis, cysticercosis, dengue, dracunculiasis (Guinea-worm disease), hookworm disease, echinococcosis, foodborne trematodiasis, leprosy, lymphatic filariasis, onchocerciasis, rabies, schistosomiasis, scabies, trachoma, trichuriasis and visceral leishmaniasis.

<sup>2</sup> The term infection is used because all the 19 NTDs for which prevalence data are currently available are infectious.

**Table 2.2. Summary of coinfection scenarios for estimating total NTD prevalence**

| Scenario     | Assumption                                        | Formula                           | Interpretation     |
|--------------|---------------------------------------------------|-----------------------------------|--------------------|
| Minimal      | No coinfection (each person has only one NTD)     | Sum of individual prevalences     | Highest estimate   |
| Independence | NTDs occur independently                          | $1 - \prod (1 - p_i)$             | Mid-range estimate |
| Maximal      | Full coinfection (same individuals have all NTDs) | Maximum single disease prevalence | Lowest estimate    |

Note:  $1 - \prod (1 - p_i)$  is the formula used to estimate the probability that a person has at least one of several diseases, assuming that the diseases occur independently of one another. Where  $p_i$  represents the prevalence of the  $i$ -th disease (expressed as a proportion e.g. 0.05 for 5%);  $(1 - p_i)$  is the probability of not having that disease; and the product symbol  $\prod$  multiplies the probabilities of not having each disease.

- Under the minimal scenario, the number of people affected and the prevalence rate decreased from 0.435 and 2.31 billion in 1990 to 0.148 and 1.17 billion in 2021; the average prevalence rate was 0.280, with approximately 1.77 billion individuals affected annually.
- Under the independence scenario, the prevalence rate declined from 0.355 in 1990 to 0.137 in 2021, resulting in a corresponding drop in the number of affected individuals from nearly 1.9 billion to just over 1.0 billion. The average prevalence rate was 0.238, with 1.51 billion people affected per year.
- The maximal scenario yielded the lowest average prevalence rate of 0.137, with 866 million individuals affected annually; the prevalence rate and the number of people affected decreased from 0.217 and 1.158 billion in 1990 to 0.075 and 595 million in 2021.

Whichever scenario is used, the trend is consistent and underscores substantial progress in reducing disease burden over the past three decades, even amid population growth.

Taken together, the scenario-based estimates for 2021 and the long-term trend data reinforce the importance of interpreting NTD prevalence as a range, rather than as a single fixed figure. This allows for better reflection of real-world complexities such as co-endemicity, programmatic scale-up and socioeconomic disparities in disease exposure.

### *NTD prevalence: projections and limitations*

Based on historical trends from 1990 to 2021 and projections using the independence coinfection scenario, the number of individuals affected by at least one NTD is expected to continue declining until 2030 (Fig. 2.13).

In 2022, the estimated number of affected individuals was approximately 1.06 billion (95% confidence interval [CI]: 1.04–1.08 billion).

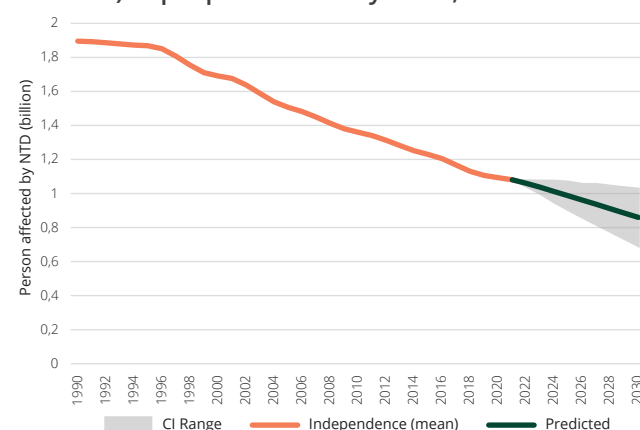
By 2030, this number is projected to decrease to 860 million (95% CI: 693–1.03 billion), representing a reduction of about 19% relative to 2022 levels.

These projections suggest that, if current trends continue, global NTD prevalence may fall by approximately 200 million cases over the next decade. While continued progress is anticipated, the wide confidence intervals underscore the need for sustained investment in surveillance, intervention delivery and co-endemicity management to ensure these gains are realized. While this time series forecasting provides a useful approximation of future trends in the total number of individuals affected by NTDs under the independence coinfection scenario, several important limitations should be considered.

First, although the analysis includes 19 diseases as defined in the GBD 2021 dataset – covering a broad range of parasitic, bacterial and viral diseases – it only includes 16 of the 21 conditions listed in the road map. Notably, several diseases such as Buruli ulcer, chikungunya, mycetoma, chromoblastomycosis and other deep mycoses, noma, snakebite envenoming, strongyloidiasis, taeniasis, tungiasis and yaws are excluded due to the absence of standardized, modelled prevalence data. Two diseases (dracunculiasis and scabies) were included in the prevalence data but not in the GHE DALYs. As a result, the forecast may underestimate the global prevalence of NTDs (6,7).

Second, the forecast model is based on a statistical time series methodology and does not incorporate disease-specific transmission dynamics, intervention

**Fig. 2.13. Projected mean (independence coinfection scenario) of people affected by NTDs, 2022–2030**



Data source: WHO and IHME/Global Burden of Disease

coverage (e.g. MDA), or contextual factors such as climate variability, conflict, population displacement and migration, or health system disruption. The projection assumes that past trends will continue unchanged, which may not hold true in the face of policy changes, outbreak events, or significant programmatic or environmental changes (8,9).

Third, the analysis uses crude aggregate numbers of affected individuals across all NTDs, based on the independence scenario. While useful for global burden estimation, this aggregation may mask heterogeneity in disease-specific trajectories. Some NTDs are nearing elimination, while others may be resurging.

Lastly, although the 95% confidence intervals are presented to account for statistical uncertainty, the margin of uncertainty increases over time, especially beyond 2025. The widening forecast intervals – ranging from  $\pm 170$  million by 2030 – underscore the need for cautious interpretation and regular updates to the model as new data become available.

### ***Limitations and bridging the data gap: expanding DALY estimates to all NTDs***

As of 2022, DALY estimates are available only for 16 diseases, representing 14 of the 20 groups defined in the road map, and excluding noma, which was added to the list in December 2024.

Therefore, despite the availability of prevalence data for 19 diseases, representing 16 of 21 groups of NTDs, DALY estimates remain incomplete and cannot be presented for several important conditions. Specifically, the following diseases or disease groups are not included in the GHE-based DALY estimates: Buruli ulcer, chikungunya, chromoblastomycosis and other deep mycoses (e.g. sporotrichosis and paracoccidioidomycosis), dracunculiasis, mycetoma, noma, scabies, taeniasis, tungiasis, snakebite envenoming, strongyloidiasis and yaws. These discrepancies underscore the lack of alignment in disease classification and modelling assumptions, and help explain why DALY data are available for only 14 NTD groups, while prevalence data are available for 16 or more.

### ***Differences between GHE and GBD DALY estimates***

The DALY estimates used in this report are based on the GHE (3), which apply a standardized WHO methodology using UN population data and are used for official global monitoring and accountability. However, some NTDs have available DALY estimates in the GBD dataset produced by IHME (4), which uses a

broader modelling framework and includes additional diseases not reflected in the GHE.

- For example, scabies and dracunculiasis are included in the GBD but not in the GHE, and are therefore not reflected in this report.
- Buruli ulcer, mycetoma, chromoblastomycosis and other deep mycoses, noma and yaws lack comprehensive DALY estimates in both the GHE and the GBD, and remain underrepresented in global burden assessments.
- Cysticercosis is included in both datasets, but taeniasis is not included in either dataset.
- Human African trypanosomiasis is not disaggregated by form (i.e. gambiense and rhodesiense), despite their distinct epidemiology, clinical progression and geographical distribution.
- Venomous animal contact is included in GHE DALYs, but the specific contribution of snakebite envenoming is not disaggregated or clearly defined in either source (GBD and GHE).
- Echinococcosis, foodborne trematodiasis and rabies are included in both GHE and GBD, but methodological differences in case estimation, population used and disability weights may result in variation in their burden estimates.

These discrepancies between GHE and GBD highlight the need for greater alignment in disease classification, data inputs, and modelling assumptions, especially for NTDs with complex transmission patterns and underdiagnosed morbidity.

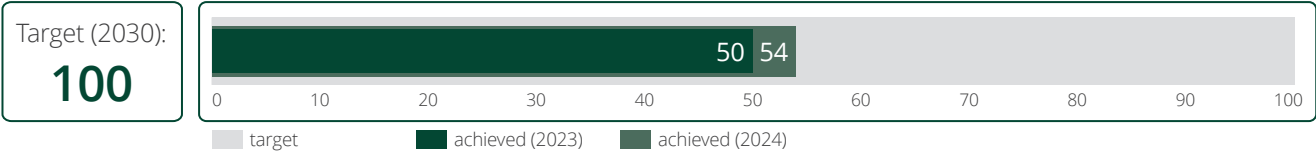
Moreover, DALYs often underestimate the true burden of NTDs due to several structural limitations. These include underreporting, insufficient surveillance in endemic areas, limited or inadequate disability weights for chronic and disfiguring conditions, and the failure to account for widespread low-grade morbidity and long-term socioeconomic impacts. As a result, the burden of NTDs may be significantly understated in global health metrics, leading to policy and funding biases that risk perpetuating neglect (10). Rabies provides a particularly good example of these limitations. The true burden is likely significantly underestimated, as cases are frequently misdiagnosed, underdiagnosed, unrecorded or never reported, especially in remote or underserved areas. Additionally, fragmented and inconsistent reporting across human, veterinary and emergency systems further compromises accuracy. Reported DALY figures for rabies should therefore be interpreted as a lower bound, not a full accounting of the burden.

These gaps hinder accurate disease burden estimation and intervention planning, including resource allocation. Addressing these limitations will require expanding DALY estimations, standardizing classification across

datasets, developing appropriate disability weights for underrepresented NTDs, and improving case detection and prevalence estimation through better surveillance systems.

Achieving full and harmonized DALY coverage will be necessary for monitoring progress towards the 2030 road map targets and for ensuring equitable health interventions in affected communities.

Overarching global indicator 3: Number of countries having eliminated at least one neglected tropical disease, as of 31 December 2024



As of December 2024, 54 countries had eliminated at least one NTD, bringing to 75 the total number of acknowledgement processes successfully completed and confirmed by WHO (Fig. 2.14). The earliest acknowledgement process was completed in 1997, when Pakistan was certified free of dracunculiasis transmission. To date, a total of 200 countries, areas and territories representing 188 WHO Member States have been successfully certified as free of dracunculiasis transmission and undergone the WHO acknowledgement process, of which 17 were endemic for the disease (Table 2.3).

In 2024, seven countries were acknowledged by WHO for eliminating one NTD: Brazil and Timor-Leste for lymphatic filariasis; Chad for gambiense human African trypanosomiasis; India, Pakistan and Viet Nam for trachoma; and Jordan for leprosy (the first country to be acknowledged for achieving this target globally following the establishment of a dedicated verification process by WHO).

By the end of 2024, at global level, 10 countries had eliminated two diseases, four countries had eliminated three diseases, and one country (Togo) had eliminated four diseases.

During 2019–2024, only 16 of the 31 acknowledged national-level disease eliminations have contributed to this indicator, as 15 acknowledgements were related to countries that had already eliminated an NTD.

Currently, global acknowledgement processes have been established by WHO for nine of the 13 diseases targeted for eradication, elimination or elimination as a public health problem in the road map. These are: dracunculiasis, human African trypanosomiasis (gambiense), human African trypanosomiasis (rhodesiense), leprosy, onchocerciasis, leishmaniasis (visceral), lymphatic filariasis, rabies and trachoma. A regional process to acknowledge interruption of domiciliary vectorial transmission of Chagas disease has been established by PAHO/WHO in the Region of the Americas.

For yaws, a questionnaire-based process was initiated in 2024 for countries in Group B (i.e. previously endemic countries, with unknown current status) and Group C (i.e. countries with no history of yaws), although these efforts have not yet led to certifying any country. India was certified free of the disease in 2016 through an ad-hoc process.

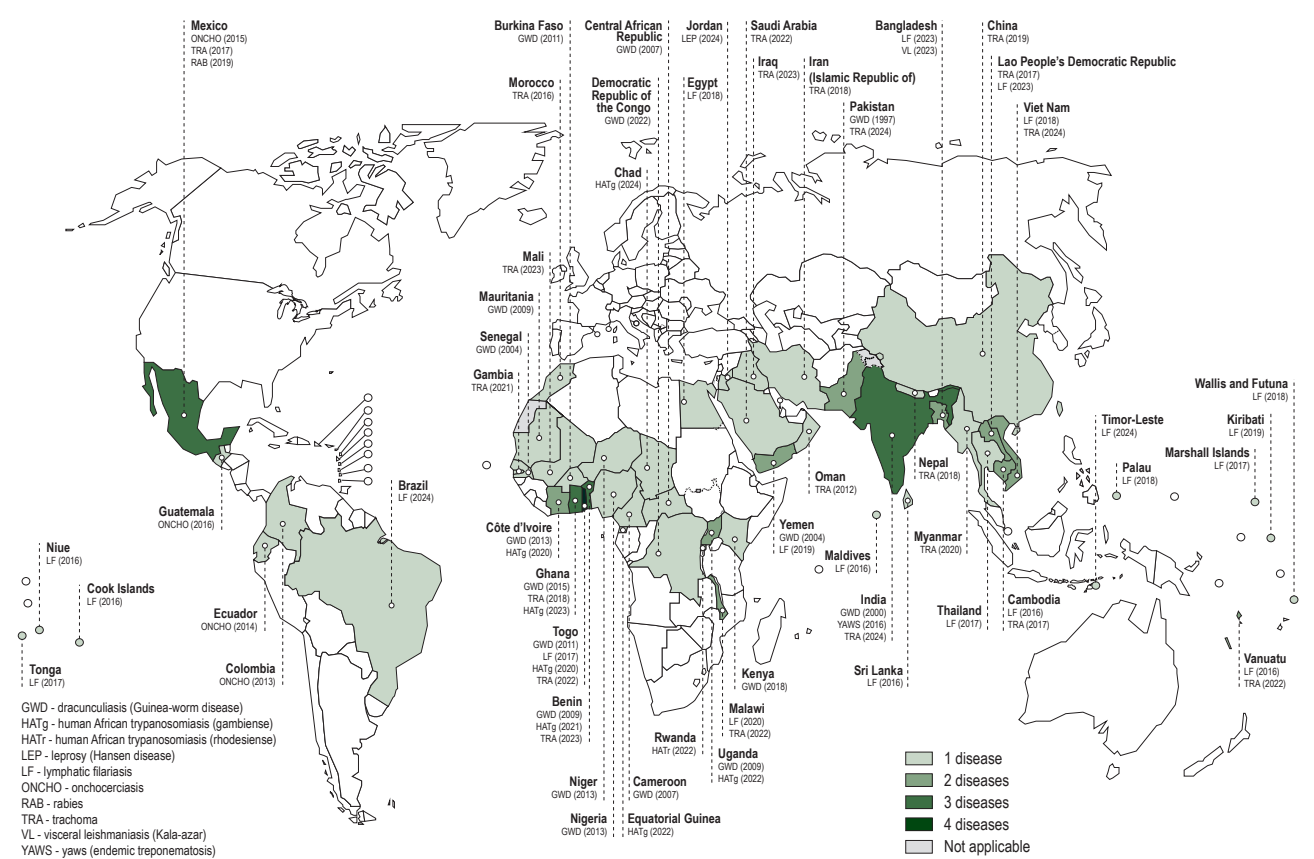
Acknowledgement processes still need to be established for schistosomiasis and soil-transmitted helminthiasis.

Table 2.3. Number of previously endemic countries certified free of transmission or verified for elimination of disease, and number of countries validated for elimination of disease as a public health problem, by WHO region, as of 31 December 2024

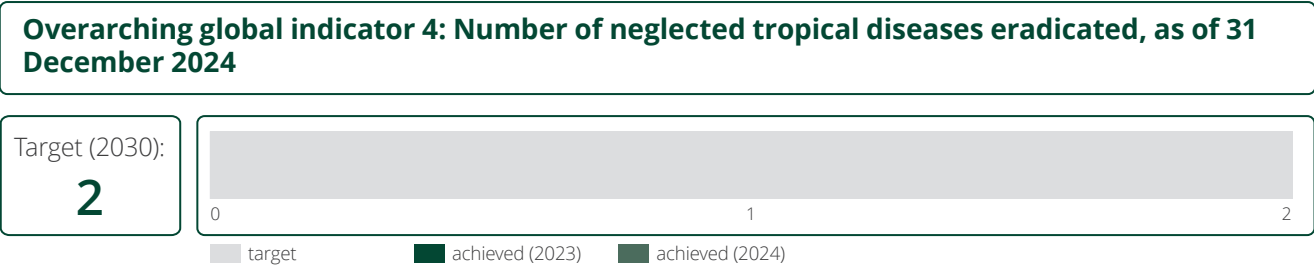
| WHO region            | No. of countries | DRA | gHAT | rHAT | LF | LEP | ONC | RAB | TRA | VL | YAW | No. of acknowledgements |
|-----------------------|------------------|-----|------|------|----|-----|-----|-----|-----|----|-----|-------------------------|
| African               | 20               | 14  | 7    | 1    | 2  |     |     |     | 6   |    |     | 30                      |
| Americas              | 5                |     |      |      | 1  |     | 4   | 1   | 1   |    |     | 7                       |
| Eastern Mediterranean | 9                | 2   |      |      | 2  | 1   |     |     | 6   |    |     | 11                      |
| European              | 0                |     |      |      |    |     |     |     |     |    |     | 0                       |
| South-East Asia       | 8                | 1   |      |      | 5  |     |     |     | 3   | 1  | 1   | 11                      |
| Western Pacific       | 12               |     |      |      | 11 |     |     |     | 5   |    |     | 16                      |
| GLOBAL                | 54               | 17  | 7    | 1    | 21 | 1   | 4   | 1   | 21  | 1  | 1   | 75                      |

DRA: dracunculiasis; gHAT: gambiense human African trypanosomiasis; rHAT: rhodesiense human African trypanosomiasis; LF: lymphatic filariasis; LEP: leprosy; ONC: onchocerciasis; RAB: rabies; TRA: trachoma; VL: visceral leishmaniasis; YAW: yaws.

Fig. 2.14. Distribution of countries that have eliminated at least one NTD (54 as of December 2024)



Data source: WHO



The road map calls for the eradication of dracunculiasis (Guinea-worm disease) and yaws by 2030. This is by far the most ambitious global health target in any disease area. Both diseases have made progress towards

the 2030 target; however, reaching it will require a massive effort to overcome the significant challenges that lie ahead. Please see disease-specific indicators further below.

2.1.2 Cross-cutting global indicators and targets for 2030

The 10 cross-cutting indicators monitor progress made in four broad thematic areas<sup>1</sup> aligned with WHO's Thirteenth and Fourteenth General Programmes of Work (2019–2023/24 and 2025–2028), the Sustainable Development Goals (SDGs) and the key strategic approaches advocated in the road map. As with the overarching indicators, the road map established targets

for 2030 for each of the cross-cutting indicators, but no 2023 or 2025 milestones.

Information used to report against the cross-cutting indicators relates to 2022 and 2023 and was largely collected through the Global NTD Annual Reporting Form (GNARF), except for indicators 2, 4 and 6. The GNARF was introduced to Member States in the African, Eastern Mediterranean, European and Western Pacific regions in 2023 (11). Data for 2022 and 2023 were collected during

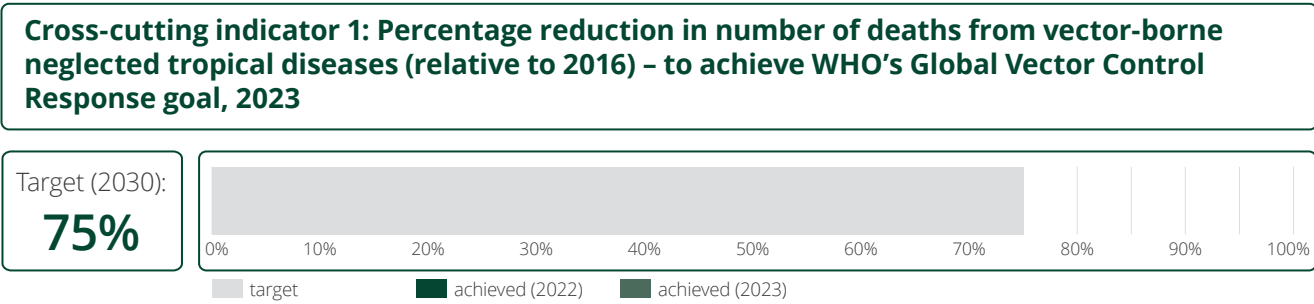
<sup>1</sup> Integrated approached (cross-cutting indicators 1, 2 and 3); multisectoral coordination (4, 5 and 6); universal health coverage (7 and 8); and country ownership (9 and 10).

the 2023 and 2024 reporting cycles, respectively. A total of 78 countries submitted the GNARF through the 2023 and 2024 reporting cycles, and data were compiled in the NTD global database (NTD SMART): data submitted by the health ministries were used to report on cross-cutting indicators 1, 3, 5 and 7–10 and to complement missing epidemiological data. Of the 78 countries, 58 reported to be endemic for at least one NTD, 40

reported to have skin NTDs and 57 reported to have NTD-related disabilities.

These data are synthesized and visualized through the NTD road map tracker dashboard, which features dynamic graphs, charts and maps to monitor progress against specific targets for both overarching and cross-cutting indicators, offering complementary visual insights beyond those included in this report (11).

**Integrated approaches**



Several NTDs are vector borne and can be lethal. However, this indicator, as defined in the *Global vector control response 2017–2030* (GVCR) (12), specifically monitors mortality reduction for dengue, chikungunya and leishmaniasis. To track progress towards the targets in the GVCR, both reported deaths (from national surveillance systems) and estimated deaths (from the GHE) are used. These complementary data sources provide a more comprehensive understanding of long-term trends as well as the immediate impact of outbreaks.

Based on data reported to WHO for 2023, the total number of deaths due to dengue, leishmaniasis and chikungunya increased by 66.4%, from 5163 in 2016 to 8592 in 2023. Changes by disease are as follows:

Dengue:

- Increased from 4559 deaths in 2016 to 7661 in 2023 (+68%).
- Compared with 2022 (5128 deaths), this reflects a 49% increase in one year. In December 2023, WHO classified dengue as a Grade 3 emergency, its highest alert level, due to the rapid rise in cases and deaths globally. This designation was largely driven by the record-breaking outbreak in the Region of the Americas, which reported over 4.2 million cases and around 2050 deaths in 2023 alone (13,14).

Visceral leishmaniasis (deaths among all types of VL cases: new, relapse, and unspecified):

- Decreased from 604 deaths in 2016 to 416 in 2023, showing a 31.1% reduction over the 7-year period.
- Compared with 2022 (457 deaths), 2023 saw a 8.9% decline.

Chikungunya:

- Increased dramatically from 87 deaths from one country in 2022 to 518 deaths reported from three countries in 2023, a 495% year-on-year rise.
- No deaths were reported in 2016, making a long-term comparison difficult, but the 2023 spike indicates a significant public health concern.

These sharp increases, particularly for dengue and chikungunya, underscore the need for strengthened surveillance, outbreak response and integrated vector management, especially in high-transmission settings.

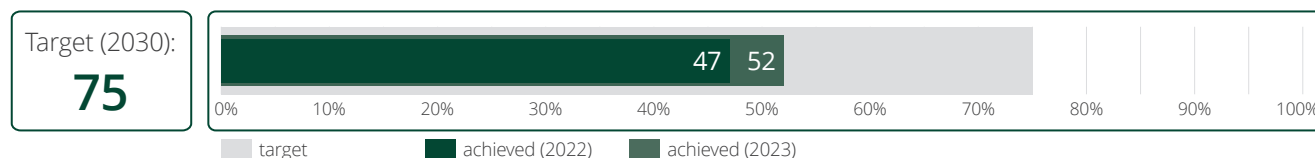
In contrast, the GHE, which offers standardized mortality estimates over time, shows a declining trend:

- Leishmaniasis deaths dropped from an estimated 7400 in 2016 to 5800 in 2021, a reduction of 21%.
- Dengue deaths declined from an estimated 27 000 in 2016 to 24 000 in 2021, a reduction of 12%.
- Combined, the estimated deaths from both diseases decreased by 14%. No estimated deaths were reported for chikungunya, which is currently not included in the GHE.

These changes reflect long-term gains in mortality reduction but do not capture recent (post-2021) surges. While reported deaths from dengue have increased between 2016 and 2023, this trend may partly reflect improved surveillance and data completeness.

Conversely, GHE estimates show a declining trend over the same period, highlighting the importance of interpreting these data sources cautiously, as they reflect different methodologies and may capture different aspects of disease burden.

## Cross-cutting indicator 2: Integrated treatment coverage index for preventive chemotherapy, 2023



The integrated treatment coverage index for preventive chemotherapy is the geometric mean of the reported coverage rates for the five main PC-NTDs: lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis and trachoma. This indicator is used to monitor integrated delivery of preventive chemotherapy by countries in a given reporting year. The index also captures the progress achieved by those endemic countries that have met the disease-specific epidemiological targets and stopped disease control activities, thus moving to post-intervention surveillance and eventually to post-elimination surveillance. For the purposes of the index, the treatment coverage rates used in the calculations are limited to those age groups considered as targets for treatment according to WHO recommendations and covered by medicine donations. Use of the geometric mean makes the integrated treatment coverage index very sensitive to low coverage rates achieved by individual disease-specific indexes, thus amplifying poor performances. This index therefore emphasizes equity across all diseases and integrated delivery of services. In the logic of leaving no one behind, high coverage for one disease or service does not compensate for low coverage for another disease or service, even if the population requiring interventions against NTDs is small. As such, the index was introduced as a tool for identifying programmatic areas that require improvement, for drawing attention towards existing service gaps and for mobilizing high-level political commitment towards all NTDs as a package. In summary, in 2023 (Fig. 2.15):

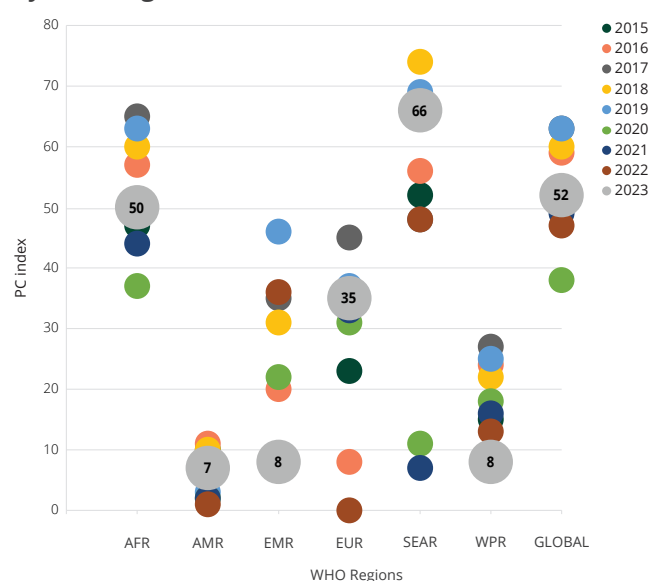
- 36 countries (31%) achieved an index  $\geq 75$ , indicating good progress in treating all diseases that require preventive chemotherapy.
- 24 countries (20%) achieved an index in the range 25–74, showing some progress in consistently treating diseases that require preventive chemotherapy: most of these countries implemented preventive chemotherapy

for all diseases that require interventions, but failed to achieve the threshold set for effective disease-specific coverage.

- Countries that have not implemented preventive chemotherapy or not reported data for one or more endemic diseases usually have an index  $< 25$ . This applies also to countries that implemented preventive chemotherapy for all endemic diseases but with very low coverage. In 2023, 58 countries (49%) reported an integrated index  $< 25$ .

The global value achieved in 2023 was 52, indicating some progress since 2022, when the value was 47 (15,16).

**Fig. 2.15. Integrated preventive chemotherapy index by WHO region, 2015–2023**

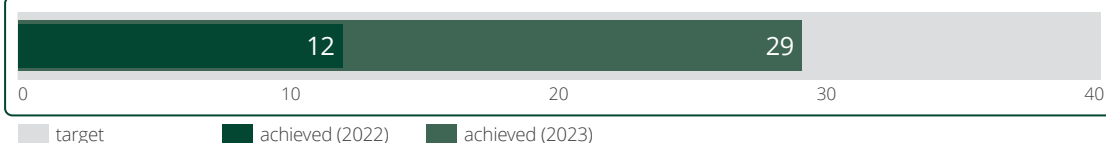


AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.  
Data source: WHO/Global Health Observatory

### Cross-cutting indicator 3: Number of countries that adopt and implement integrated skin neglected tropical diseases strategies, 2023

Target (2030):

**40**



The portfolio of skin-related NTDs (skin NTDs) includes Buruli ulcer, cutaneous leishmaniasis, leprosy (Hansen disease), lymphatic filariasis with dermatological manifestations, mycetoma, chromoblastomycosis and other deep mycoses, noma, onchocerciasis, post-kala-azar dermal leishmaniasis, scabies and other ectoparasitoses and yaws.

As of 2023, 55 countries were endemic for two or more skin NTDs, making them eligible for integration. By the end of 2023, a total of 29 countries had adopted and begun implementing the WHO-recommended integrated strategy for skin NTDs. This cumulative indicator reflects sustained progress: once countries adopt integration, they typically continue and expand implementation over time. However, while many countries have adopted the strategy, some have only partially implemented it or have not yet achieved full scale-up.

Integration is defined by WHO as the simultaneous implementation of two or more programme activities for skin NTDs – including case detection, treatment, training, supervision or social mobilization – at community and/or health facility levels (17). This approach is especially impactful in countries where multiple skin NTDs coexist, improving programme efficiency, reducing stigma and expanding access to care.

Countries adopting and implementing the strategic framework for integrated control and management of skin NTDs (“the skin NTD framework”) (18) during 2022–2023 by WHO region are:

- in the African Region: Benin, Cameroon, Chad, Congo, Côte d'Ivoire, Ethiopia, Guinea, Kenya, Liberia, Mali, Senegal, Sierra Leone, South Sudan and Togo;
- in the Eastern Mediterranean Region: Iraq, Kuwait and Sudan;
- in the South-East Asia Region: Bangladesh, Bhutan, Indonesia<sup>1</sup>, Maldives, Nepal, Thailand and Timor-Leste; and
- in the Western Pacific Region: the Lao People's Democratic Republic, Macao SAR (China), Malaysia, Philippines and Vanuatu.

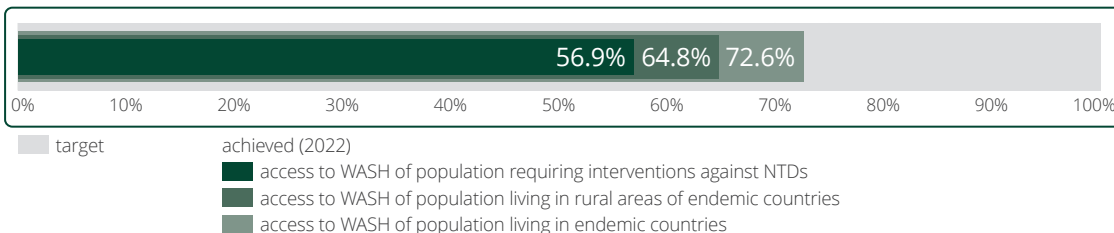
These 29 countries in four WHO regions reflect a growing global commitment to addressing skin-related NTDs through integrated approaches. With over half (52.8%) of the eligible countries already engaged in implementation, there is strong momentum to build on. Continued investments in technical support, workforce capacity and operational integration will be key to expanding implementation, especially in underserved and high-burden settings.

## Multisectoral coordination

### Cross-cutting indicator 4: Access to at least basic water supply, sanitation and hygiene in areas endemic for neglected tropical diseases – to achieve targets 6.1 and 6.2 of Sustainable Development Goal 6, 2022

Target (2030):

**100%**



<sup>1</sup> In accordance with resolution WHA78.25 (2025), Indonesia was reassigned to the WHO Western Pacific Region as of 27 May 2025.

Access to safe water, sanitation, and hygiene (WASH) plays a critical role in efforts to control and eliminate NTDs.

To measure this indicator, data from the WHO/UNICEF Joint Monitoring Programme (JMP) are used to estimate how many people in endemic countries have access to at least basic WASH services. In 2025, an improved methodology was applied to better reflect country realities and align with SDG targets 6.1 (“By 2030, achieve universal and equitable access to safe and affordable drinking water for all”) and 6.2 (“By 2030, achieve access to adequate and equitable sanitation for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations”). Priority was given to data on “at least basic” service levels; where these were unavailable, the most appropriate alternative – either “basic” or “safely managed” – was used. Reported national totals were used when available; when not, urban and rural data were combined to produce a national estimate. These national access rates were then applied to the SDG indicator 3.3.5 (“number of people requiring interventions against neglected tropical diseases”), allowing for a standardized calculation of the number and proportion of those people with access to WASH.

Given the challenges in consistently defining “areas endemic for neglected tropical diseases,” this indicator has been interpreted differently across three contexts: population living in endemic countries; population living in rural areas of endemic countries; and population requiring interventions against NTDs in endemic countries. Additionally, access rates for WASH are reported separately by JMP; therefore, this indicator does not necessarily reflect individuals with simultaneous access to all three services. Countries endemic for at least one NTD were identified using WHO’s classifications (11). The revised approach discussed in the present report introduced a fallback logic and a service-level hierarchy to ensure greater completeness, accuracy and comparability across countries. The latest data available in JMP refer to the year 2022.

In 2022, 184 endemic countries reported on WASH access, helping to assess whether conditions are in place to support long-term disease prevention and for identifying potential inequities in service availability in NTD-affected areas.

Access to at least basic WASH services among the population requiring interventions against NTDs (56.9%) remains the lowest of all tracked categories. These are the people most at risk of infection and transmission, namely those living in areas where MDA, morbidity management or surveillance is required. Coverage for this group is critical from a programmatic standpoint, and the low figure underscores the equity gap that must be addressed to achieve elimination targets.

Among rural populations in endemic countries, only 64.8% had access to basic WASH services. Rural populations tend to have lower access to WASH services due to infrastructure challenges, lower investment and geographical isolation. While this figure demonstrates progress, infrastructure limitations, geographical isolation and lower investment continue to pose challenges. Targeted rural interventions remain essential to closing these persistent gaps.

Access among the total population in endemic countries stood at 72.6%, a moderate figure that reflects national averages. However, this overall rate masks disparities, particularly among rural communities and high-risk groups.

The range of access to WASH services at country level in 2022 was wide. The lowest reported access was just 17.6%, while the highest approached 100%. Half of the reporting endemic countries had access levels below 75.1%, and one in four countries had coverage below 56.8%, underscoring major infrastructure gaps that threaten disease control progress. Conversely, the top quartile of countries had WASH access exceeding 90.7%.

Overall, data show that within countries endemic for NTDs, people requiring NTD interventions have lower access to basic WASH services than people living in rural areas (where the risk of acquiring NTDs is generally higher than in urban areas), and even more so of the general resident population.

## ***Regional progress and disparities in WASH access for NTD elimination***

### ***African Region: critical gaps persist despite isolated successes***

The African Region remains the furthest from achieving the 100% benchmark for access to basic WASH services in countries endemic for NTDs. In 2022, only 41.2% of the total population, 37.3% of the rural population and 36.2% of the population requiring NTD interventions had access to basic WASH, highlighting systemic infrastructure and equity gaps that threaten the attainment of the 2030 elimination targets.

Only a handful of countries made substantial progress. Mauritius stands out as the only country in the region to reach full coverage (100%) for both the total and the rural population. Other high performers included the Seychelles (98.2%), Botswana (86.9%), Cabo Verde (86.6%) and South Africa (81.9%). However, even in these countries, rural access still lags behind; for example, Botswana reported 68.8% rural coverage and South Africa 81.4%.

Several countries, such as Gabon (73.4%), Namibia (71.2%), Eswatini (69.2%) and Algeria (64.8%), achieved moderate overall access but remained well below universal coverage. Among rural populations, the gap was more pronounced. Namibia (62.4%), Liberia (57.8%) and Algeria (57.5%) demonstrate this disparity, with rural access falling short of national averages.

In contrast, many countries remain critically behind. The Democratic Republic of the Congo (17.6%), the Central African Republic (22.4%), Madagascar (23.8%), Guinea-Bissau (25.5%), Ethiopia (25.5%) and Uganda (29.5%) had national access rates below 30%. Rural access was often even lower in the Democratic Republic of the Congo (12.1%), the Central African Republic (18.0%), Madagascar (18.2%) and Côte d'Ivoire (22.8%), reflecting deep-rooted inequities.

More than 20 endemic countries in the region had fewer than 40% of their populations requiring NTD interventions covered by basic WASH services. This includes large, high-burden countries such as Nigeria (35.7% overall, 29.3% rural) and Ethiopia (25.5% overall, 26.7% rural), where poor WASH access poses a direct threat to disease control and elimination.

These findings reinforce the urgency of targeted WASH investment, particularly in rural and underserved communities. Without accelerated efforts to bridge urban-rural disparities and improve infrastructure, the African Region risks falling further behind the 2030 targets for both WASH and NTDs.

### *Eastern Mediterranean Region: mixed progress amid fragility*

In 2022, countries in the Eastern Mediterranean Region made moderate progress in expanding access to at least basic WASH services in areas endemic for NTDs. Based on population-weighted estimates, 69.7% of the total population, 61.0% of the rural population and 59.4% of the population requiring NTD interventions had access, still well below the universal target of 100%.

Countries such as Kuwait (100%), Qatar (96.7%), Oman (94.5%), the Syrian Arab Republic (91.4%) and the Islamic Republic of Iran (90.7%) reported near-universal WASH coverage. Saudi Arabia (84.3%), Libya (79.2%), Egypt (77.4%), Jordan (74.0%), Tunisia (71.7%) and the occupied Palestinian territory (73.7%) also demonstrated relatively strong national performance. However, access figures from the Syrian Arab Republic and the occupied Palestinian territory must be interpreted with caution due to conflict and limitations in data reliability.

In rural areas, coverage exceeded 89% in the Islamic Republic of Iran, Jordan, Oman, Saudi Arabia and the Syrian Arab Republic, showing that some countries have achieved substantial reach beyond urban

centres. However, significant gaps persist in others: Djibouti (38.7%), Afghanistan (44.7%), Yemen (46.5%), Somalia (28.1%) and Sudan (59.7%) reported much lower rural access. At the national level, Somalia (41.5%), Yemen (46.8%) and Afghanistan (48.7%) remain among the lowest in the region.

Many countries, particularly Afghanistan, the occupied Palestinian territory, Libya, Somalia, Sudan, the Syrian Arab Republic and Yemen, continue to experience conflict, fragility or humanitarian crises. These factors severely disrupt WASH infrastructure, hinder service delivery and compromise data collection.

While several countries in the region are moving closer to universal access, the Eastern Mediterranean Region remains marked by sharp disparities. Rural-urban gaps and the vulnerability of fragile settings require sustained, targeted investment to advance progress towards the SDGs and the NTD elimination targets.

### *Region of the Americas: broad coverage with persistent gaps in high-risk and marginalized areas*

In 2022, the Region of the Americas demonstrated generally strong access to basic WASH services, with 74.8% of the total population in NTD-endemic countries having access. Rural access<sup>1</sup> was even higher, at 81.0%, reflecting solid infrastructure in many countries. However, only 64.2% of populations requiring NTD interventions had access to basic WASH, highlighting a disconnect between national service delivery and targeted health needs.

Several countries, including Chile (100%), Argentina (97.9% total, 98.2% rural), Uruguay (97.5%) and the United States of America (94.8% total, 89.3% rural), reported near-universal coverage. Saint Lucia (90.6%) and Jamaica (88.9% total, 88.3% rural) also demonstrated consistently high access across populations.

Yet critical gaps remain. Haiti remains the most underserved, with just 50.7% total coverage and 32.5% rural access. The Dominican Republic (46.9%), Paraguay (51.4%), Suriname (57.4%) and Guatemala (57.8%) also fall significantly below regional averages.

From a disease-control perspective, countries with large NTD-target populations and low WASH access, like Haiti and the Dominican Republic, require urgent attention (19). The Bolivarian Republic of Venezuela (61.7% total, 61.7% rural) and Ecuador (62.6% total, 57.6% rural) also remain below the benchmark and should be prioritized for integration of WASH into NTD programmes.

<sup>1</sup> Note: In the Region of the Americas, average rural WASH access appears higher than national coverage due to population-weighted calculations and possible data reporting gaps or inconsistencies in urban or total population datasets. This does not imply rural areas are systematically better served than urban areas, but rather reflects how data are aggregated across countries.

While overall rural access is encouraging, the lower coverage among NTD-affected populations suggests that progress has not reached all vulnerable groups equally. Going forward, greater alignment of WASH and NTD strategies, improved subnational targeting and equity-focused investments will be critical to achieving universal access by 2030.

### *South-East Asia Region: notable gains with persistent rural gaps*

The South-East Asia Region made notable progress in expanding access to at least basic WASH services in 2022, but still falls short of the 100% universal access target, particularly in rural and hard-to-reach settings. Population-weighted estimates show that 70.1% of the total population in endemic countries and 70.3% of the population requiring NTD interventions had access to basic WASH, while only 59.0% of the rural population was covered.

The Maldives (99.6% overall, 99.8% rural) is closest to full coverage. Thailand (81.7% overall, 82.4% rural) and Sri Lanka (75.4% overall, 74.7% rural) also demonstrated high and balanced access. Bhutan reported 66.7% overall and 74.5% rural access, while India (72.3%) and Indonesia<sup>1</sup> (72.7%) reached solid national figures with room to improve rural coverage (India: 57.1%, Indonesia: 70.4%).

Progress in other countries was more modest. The Democratic People's Republic of Korea (69.2% overall, 56.5% rural), Bangladesh (51.3% overall, 50.9% rural), Myanmar (57.7% overall, 58.7% rural) and Nepal (56.9% overall, 57.5% rural) remain below the regional average. Timor-Leste (75.5% overall, 70.1% rural), while performing relatively well, has not yet reached full coverage.

Persistent urban–rural disparities and underinvestment in hygiene and sanitation infrastructure continue to limit progress, especially in high-risk communities. To close the gap and support NTD elimination, countries must strengthen rural WASH systems and integrate services with public health delivery.

### *European Region: high coverage with minimal NTD burden*

The European Region continues to lead globally in access to basic WASH services. In 2022, the regional average for national WASH access stood at 82.1%, 77.6% in the population requiring NTD interventions and 84.0% in rural areas, one of the highest globally. Although these figures remain below the 100% benchmark, they reflect well-developed infrastructure and widespread service provision across the region.

Many countries have already achieved or are nearing full coverage. Monaco (100%), Sweden (96.1%), Switzerland (96.7%), Netherlands (Kingdom of the) (98.6%), Germany (97.3%) and the United Kingdom of Great Britain and Northern Ireland (98.4%) reported both high national and rural coverage, showcasing sustained WASH investment across geographies. Similarly, Finland, Latvia and Lithuania each reported rural access rates above 90%.

In contrast, a few countries still lag behind the regional average. Georgia (57.3%), Serbia (55.1%) and Romania (65.1%) reported lower rural WASH coverage, despite relatively stronger national access levels. These gaps highlight the need to strengthen rural service delivery even within generally high-performing health systems.

The relevance of WASH access for NTDs remains minimal. Most countries in the region report no significant population requiring NTD interventions, with NTDs largely controlled or non-endemic. Nonetheless, selected countries, including Tajikistan (63.8%), Italy (65.8%), Uzbekistan (70.1%) and the Republic of North Macedonia (77.0%), still report rural access rates below the regional average, suggesting opportunities for targeted rural investment.

In a context of low NTD burden, maintaining high WASH standards remains important for broader health resilience, outbreak preparedness and equity. Continued attention to rural and marginalized populations, including Roma communities, migrants and remote rural settlements, will be essential to close remaining gaps and sustain universal access (20,21).

### *Western Pacific Region: high coverage with island-State disparities*

The Western Pacific Region maintained strong overall WASH performance in 2022, with several countries nearing universal access. Based on population-weighted estimates, 81.3% of the total population in endemic countries had access to basic WASH services, along with 76.4% of rural populations and 57.3% of the NTD target population. Despite this progress, coverage remains below the 100% benchmark, particularly among underserved island nations.

Countries achieving near-universal access include Singapore (100%), Brunei Darussalam (99.7%), Japan (98.3%), the Republic of Korea (98.8%), New Caledonia (97.2%) and Australia (96.0%). High coverage was also reported in New Zealand (90.0%), Niue (93.9%), Palau (91.0%) and Malaysia (84.5%).

Australia and New Zealand reached 100% rural access, while countries like Malaysia (93.0%), Tuvalu (77.7%), the Marshall Islands (76.7%), and Wallis and Futuna (75.1%) reported notably high levels of rural WASH coverage.

<sup>1</sup> In accordance with resolution WHA78.25 (2025), Indonesia was reassigned to the WHO Western Pacific Region as of 27 May 2025.

In contrast, WASH access remains a major challenge in parts of the Pacific. Papua New Guinea (38.1%), the Solomon Islands (43.9%) and Kiribati (45.8%) had the lowest overall access, with rural coverage in Papua New Guinea (33.4%) and Kiribati (42.0%) reflecting deep infrastructure gaps. In the Philippines, where an estimated 43% of the total population requires NTD interventions, 59.7% of the overall population and 61.1% of rural residents had access, suggesting moderate progress but underscoring the need for accelerated efforts.

To achieve universal access and meet the road map targets, countries in the region must address rural-urban inequities and scale investments in fragile and geographically isolated communities, particularly small island states.

*Global reflections and strategic priorities*

Despite global efforts, the overall picture remains clear: a significant number of NTD-endemic communities still lack reliable access to even basic WASH services. This creates a challenging environment for maintaining the gains made through MDA and other control strategies. Without access to at least basic WASH services to interrupt transmission and sustain behavioural change, many NTDs will continue to thrive.

These findings reinforce the urgent need for integrated programming. Investments in WASH infrastructure and services must be better aligned with national NTD strategies, especially in countries where high disease burden intersects with low WASH access. Strengthening collaboration between health and WASH sectors, improving local infrastructure and ensuring inclusive service delivery in endemic communities are critical for achieving the 2030 road map and SDG targets. Importantly, the data reveal persistent gaps in hygiene and sanitation, even in areas with relatively good

water access. For diseases driven by poor hygiene and environmental contamination, such as trachoma, schistosomiasis and soil-transmitted helminthiasis, inadequate WASH conditions continue to hinder control and elimination.

Future planning must fully integrate these dimensions. Improving hygiene and sanitation should not be viewed as optional or secondary, but as central pillars of NTD elimination strategies. Sustainable progress demands that WASH and NTD efforts move forward in tandem, anchored in equity and inclusion.

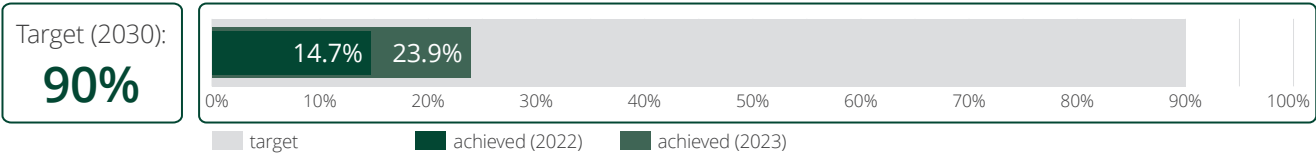
*Equity as a public health imperative*

Equity in WASH refers to the principle that all individuals and communities – regardless of geography, socioeconomic status, gender, disability or health risk – should have fair and just access to safe, affordable and adequate WASH services. It acknowledges that certain populations face greater barriers and therefore may require targeted support or prioritized interventions to ensure equal outcomes.

In the context of NTDs, equity is not only a human rights issue but also a practical necessity. Populations most at risk of NTDs – often rural, remote or underserved – are also the least likely to have access to basic WASH. Closing these gaps in equity is critical for breaking transmission cycles and achieving sustainable elimination.

Moving forward, countries must prioritize and treat WASH expansion not just as a development goal but as a core public health strategy. Routine monitoring of access to WASH services in areas endemic for NTDs – disaggregated by region, vulnerability and disease burden – should become standard practice. Only through targeted equitable and sustained investment can the dual goals of ending NTDs and achieving universal WASH access be fully realized.

**Cross-cutting indicator 5: Share of countries with neglected tropical diseases integrated in national health strategies/plans, 2023**



Tracking integration of NTDs into national health strategies and plans is critical to monitor long-term commitment to mainstreaming NTDs into health systems as well as assessing progress towards sustainability in terms of national ownership and alignment with broader health sector reforms. This indicator assesses whether countries have included at least 75% of their

endemic NTDs in national strategic documents, a key step in institutionalizing NTD programmes within the health system.

Between 2022 and 2023, countries demonstrated varied trajectories in integrating NTDs into their national health strategies and plans.

A total of 13 countries consistently maintained strong integration, meeting the benchmark of including at least 75% of endemic NTDs in both 2022 and 2023. This sustained performance reflects a high level of national commitment and institutionalization of NTD programmes within broader health system frameworks.

Some 19 countries achieved the benchmark for the first time in 2023, having either not met it or not having reported data in 2022. These data highlight growing momentum and successful efforts to elevate NTD priorities on national policy agendas.

Conversely, two countries met the benchmark in 2022 but experienced a decline in 2023, falling below the 75% threshold despite having previously achieved it. This drop underscores the importance of maintaining policy and operational continuity over time. An additional 13 countries met the benchmark in 2022 but did not report data in 2023, making it difficult to assess whether integration was sustained. Taken together, this brings the cumulative total to 44 countries that have met the 75% benchmark in either 2022 or 2023, reflecting some global progress towards mainstreaming NTDs within national health strategies.

Using the broader denominator of 184 countries historically considered endemic for at least one NTD, a total of 44 countries had met the 75% integration benchmark by 2023, reflecting global coverage of 23.9%, up from 14.7% in 2022 when 27 countries had met the benchmark. While the overall increase is gradual, it indicates a positive trend towards mainstreaming NTDs into national policy agendas and health sector frameworks.

## ***Regional observations***

In the African Region, nine countries (Burundi, Eritrea, Ethiopia, Gabon, Liberia, Mali, Senegal, South Africa and South Sudan) consistently met the criteria for integrating NTDs into national health strategies and plans in both 2022 and 2023, reflecting sustained commitment. While overall reporting decreased in 2023 compared with 2022, a greater number of countries achieved the integration benchmark. Nine countries (Benin, Congo, the Democratic Republic of the Congo, Eswatini, Madagascar, Mauritania, Mauritius, Niger and Uganda) were newly added to the list in 2023, highlighting growing momentum towards mainstreaming NTDs across the region. Seven countries (Burkina Faso, Cabo Verde, The Gambia, Namibia, Sierra Leone, Sao Tome and Principe, and Togo) have taken steps to integrate NTDs but did not meet the 75% benchmark, indicating partial progress. Five countries (Angola, Central African Republic, Ghana, Kenya, Mozambique) met the benchmark in 2022 but did not report or submit data for 2023, making it difficult

to assess continued progress. Meanwhile, two countries (Cameroon and Guinea) met the benchmark in 2022 but fell below the 75% threshold in 2023, underscoring the need for sustained efforts to maintain progress once achieved. In total, 23 countries in the African Region have met the 75% integration benchmark in either 2022 or 2023, excluding the two countries that dropped below the threshold in 2023 after meeting it in 2022.

The South-East Asia Region was the strongest-performing region in 2023, where 10 of 11 countries (Bangladesh, Bhutan, the Democratic People's Republic of Korea, India, Indonesia<sup>1</sup>, Maldives, Nepal, Sri Lanka, Thailand and Timor-Leste) confirmed through regional reporting mechanisms that the benchmark had been achieved.

In the Eastern Mediterranean Region, three countries (the Islamic Republic of Iran, Saudi Arabia and Sudan) met the 75% integration benchmark in 2023, demonstrating continued progress towards embedding NTDs within national health strategies and plans. The Islamic Republic of Iran maintained strong performance, improving from 80% in 2022 to 100% in 2023. Sudan notably maintained full integration across all relevant NTDs in both years, reflecting institutional commitment despite challenging contexts. Saudi Arabia improved from 43% in 2022 to 100% in 2023. Several countries showed partial progress based on 2023 data submitted during the 2024 reporting cycle. Iraq reported 52% integration, Jordan 57% and Libya 17%. Morocco, which met the benchmark in 2022 (75%), did not submit data for 2023. Similarly, Yemen reported 67% in 2022 but did not submit data for 2023. Four other countries in the region (Afghanistan, Djibouti, Somalia and the Syrian Arab Republic) either reported 0% integration or did not submit data in both years, indicating limited or no progress towards national integration of NTD programmes. A total of four countries in the region met the benchmark in at least one of the two years (2022 or 2023), and several others made incremental improvements.

In the Western Pacific Region, two countries (Singapore and Vanuatu) met the 75% integration benchmark in both 2022 and 2023, demonstrating sustained commitment to mainstreaming NTDs into national health strategies and plans. Five other countries (China, French Polynesia, Philippines, Malaysia and Nauru) met the benchmark in 2022 but did not report data in 2023, making it difficult to assess continuity of integration. The Lao People's Democratic Republic maintained a 70% integration rate in both years, showing consistent partial progress. Viet Nam reported 71% in 2022 but did not report in 2023. Papua New Guinea reported 44% in 2023, remaining below the 75% threshold. A total of

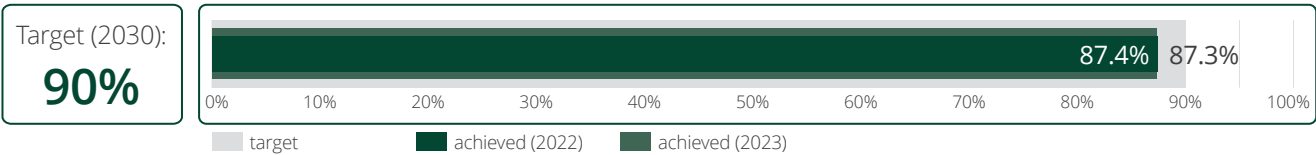
<sup>1</sup> In accordance with resolution WHA78.25 (2025), Indonesia was reassigned to the WHO Western Pacific Region as of 27 May 2025.

seven countries in the region met the benchmark in at least one of the two years (2022 or 2023), while others showed partial progress or reporting gaps.

Integration of NTDs into national health strategies and plans is not merely a planning milestone; it is a foundational prerequisite for country-led ownership and sustainable elimination. Countries that have not yet reached this threshold must be supported through inclusive policy dialogue, strategic planning and institutional capacity-building to ensure NTD programmes are not siloed but fully embedded in health sector priorities.

Critically, sustaining integration also means moving from strategy to implementation. Strategic inclusion must be backed by dedicated budgets, operational frameworks and measurable performance indicators. As global health systems face evolving pressures – from pandemics to climate change – integrating NTD services is not just about equity; it is about building resilient, people-centred health systems that leave no one behind. Meeting the road map targets will depend not only on expanding reach but also on firmly securing NTDs within the architecture of universal health coverage.

**Cross-cutting indicator 6: Share of the population at risk protected against catastrophic out-of-pocket health expenditure due to neglected tropical diseases, 2023**



This report includes the second annual update on the share of the population at risk of NTDs that does not incur catastrophic out-of-pocket health expenditure.

Globally in 2023 an estimated 87.3% of the population at risk of NTDs did not incur catastrophic health spending. This represents a slight decline of 0.1 percentage points compared with 2022, indicating a marginal increase in financial vulnerability among affected populations.

Indicator 6 is determined by two key components:

- Catastrophic health spending (SDG 3.8.2), which is the proportion of the population that spends more than 10% of their household income or expenditure on out-of-pocket healthcare spending. The value of this indicator is used as a proxy for the risk of incurring catastrophic health spending. An increase in catastrophic health spending risk results in lower financial protection in the population. However, a reduction of this indicator should be interpreted with caution, because it could be driven by an increase in financial barriers preventing access to healthcare; and
- Population requiring interventions against NTDs (SDG 3.3.5), which is used in this report as a proxy for the population at risk of NTDs.

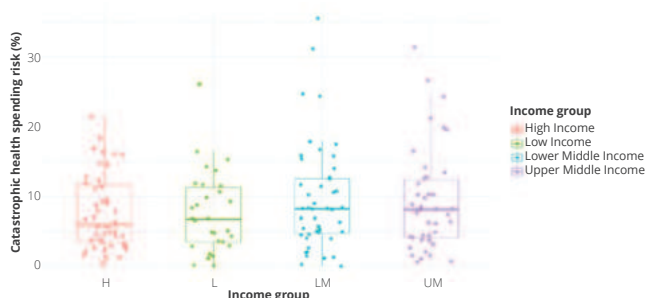
In this report, SDG 3.8.2 is interpreted at the country level as the average risk of its population incurring catastrophic health expenditures for any disease, including NTDs. The global level estimate presented in this report is based on a sample of 162 countries accounting for 96.5% of the world's population in 2023. At the global level, cross-cutting indicator 6 is computed by multiplying each country's SDG 3.8.2 indicator value

(catastrophic spending rates) by its SDG 3.3.5 value (population requiring NTD interventions), to estimate the proportion of the global population at risk of NTDs that also faces catastrophic health spending. This means that countries with a larger proportion of population at risk of NTDs have a greater influence on this indicator. The calculation method for this indicator is detailed in Annex 1 of the *Global report on neglected tropical diseases 2024* (22).

Fig. 2.16 illustrates the distribution of catastrophic health spending risk by country economic level. One of the notable findings is that, despite significant differences in income levels, the financial risk in high-income countries, measured by catastrophic health spending, is comparable to that of low-income countries. This is because SDG 3.8.2 captures large out-of-pocket health payments that exceed 10% of a household budget, whereas in lower-income countries most people cannot spend that amount because of their more limited capacity to pay for health care.

This fact highlights the limitations of the SDG 3.8.2 financing indicator in capturing health financing risks faced by poor populations, which are well-documented in the literature (23–25). Notably, SDG 3.8.2 captures the health expenditure exceeding 10% of the household's income or expenditure, while for individuals living in poverty, any health expenditure, even below the 10% threshold, could be a driver of further impoverishment (26,27). Additionally, individuals living in poverty are those facing the highest risk of acquiring NTDs. Given this limitation, this report also examines the impoverishing effects of health spending on those most vulnerable to NTDs (Box 2.1).

**Fig. 2.16. Trends in catastrophic health financing risk by income group**



*Data source:* World Bank's historical country income classification for the year corresponding to the most recent available SDG 3.8.2 data for each country.

*Note:* SDG 3.8.2 is interpreted in this report as the average risk of catastrophic health spending in the general population, irrespective of whether they are at risk of NTDs.

Applying the formula in Box 2.1, the estimated share of the global population at risk of NTDs experiencing impoverishment due to health spending in 2023 is 24.5%; as such, the share of the population that did

not face impoverishment due to health spending is 75.5%. The latter has a lower value than the share of the global population at risk of NTDs facing catastrophic health spending (87.3%), suggesting that populations at risk of NTDs are less likely to spend large amounts of money on health out-of-pocket and are more likely to be impoverished by small out-of-pocket payments they may incur.

The financial burden of health spending among populations at risk of NTDs varies across WHO regions, with distinct patterns of catastrophic and impoverishing health spending (Fig. 2.17). In the African Region, NTD-risk populations face the highest rate of impoverishment due to health expenditures, meaning health spending pushes more often people into or deeper into poverty compared to other regions. Conversely, in the South-East Asian Region, populations at risk of NTDs have the highest rate of catastrophic health spending, where a significant share of the population allocates a substantial portion of their income to health expenses without necessarily falling below the poverty line.

### Box 2.1. Calculation methodology for the estimated share of the global population at risk of NTDs experiencing impoverishment

WHO measures the financial impact of out-of-pocket health spending using two indicators, expressed as the share of the total population incurring impoverishment:

- Impoverishment indicator 1: impoverished due to out-of-pocket health spending (i.e. the proportion of the population pushed below the poverty line due to household health expenditures); and
- Impoverishment indicator 2: further impoverished due to out-of-pocket health spending (i.e. the proportion of the population already below the poverty line that is pushed even deeper into poverty due to household health expenditures).

This report uses the international threshold of US\$ 2.15 per day in 2017 purchasing power parities used for SDG 1 ("End poverty in all its forms everywhere" (28)). This report interprets those population rates as proxies for the risk of impoverishment. The global population at risk of both impoverishment due to out-of-pocket health expenditure and NTDs, relative to the global population at risk of NTDs, is calculated using the following formula, which combines both impoverishment indicators above:

$$\text{Impoverishment risk for population at risk of NTDs} = \frac{\sum_i^N (\text{Impoverishment indicator 1} + \text{Impoverishment indicator 2})_{it} \times \text{SDG3.3.5}_{i2023}}{\sum_i^N \text{SDG3.3.5}_{i2023}}$$

Where:

- $i$  = country  $i$
- $t$  = year of the latest available data for the two impoverishment indicators
- $N$  = total number of countries in the calculation sample

This indicator corresponds to a joint exposure estimate among those at risk of NTDs, which is referred to as the global proportion of the population at risk of NTDs experiencing impoverishment from health spending

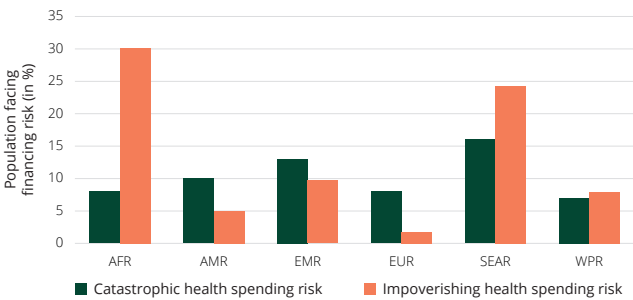
*Data sources:*

- Impoverishment indicators: WHO financial protection data (29)
- SDG 3.3.5: WHO NTD intervention data (2)

Regional comparisons reveal differing financial vulnerabilities. In the African, South-East Asia and Western Pacific regions, for populations at risk of NTDs, the rate of impoverishment due to health spending exceeds the rate of catastrophic spending, because the US\$ 2.15 poverty line is better able to capture impoverishment in those regions that host many low and lower-income countries. Meanwhile, in the European, Americas and Eastern Mediterranean regions, for populations at risk of NTDs, the rate of catastrophic health spending is higher, as the US\$ 2.15 poverty line is too low to properly capture impoverishment in those regions (Fig. 2.17).

These disparities underscore the importance of considering both catastrophic health spending and impoverishment indicators when assessing the financial risks populations face due to health expenditures. WHO, in collaboration with the World Bank, is updating the methodology for measuring financial risk indicators under the SDG framework for universal health coverage (30). The goal is to develop a new indicator that

**Fig. 2.17. Population at risk of NTDs (%) facing catastrophic health spending vs impoverishment due to health spending, by WHO region**

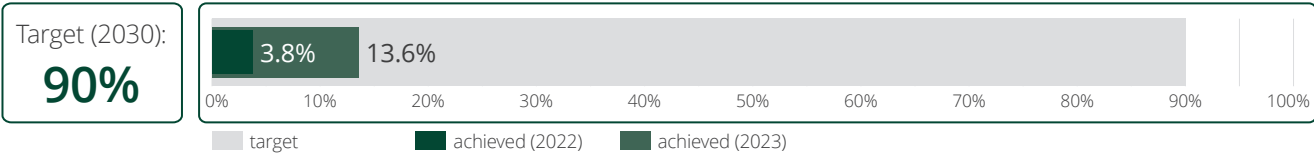


AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.  
Data source: WHO/Global Health Observatory

captures financial distress caused by both catastrophic health spending and impoverishment. The revised data are expected to be available by the end of 2025 and will be used to update the financial protection indicator of the road map in future global NTD reports.

## Universal health coverage

### Cross-cutting indicator 7: Share of countries including neglected tropical disease interventions in their package of essential services and budgeting for them, 2023



Integrating NTD interventions into national health service packages and allocating dedicated budget lines remains a foundational step towards achieving sustainability and universal health coverage. This indicator tracks whether countries have included interventions for at least 75% of their endemic NTDs in national essential health benefit packages and ensured domestic budget allocations for their delivery.

A total of 47 endemic countries reported data on this indicator through the GNARF in 2022 and/or 2023. Of these, seven countries met the benchmark in 2022, of which three also met it in 2023. An additional seven countries did so in 2023 for the first time, bringing the cumulative total to 14 countries which, as of 2023, have met the benchmark in at least one of the two years.

In addition, 11 countries from the South-East Asia Region confirmed through regional reporting mechanisms that NTD interventions are included in their essential services and budgets. While NTD-by-NTD breakdowns were not provided, the national confirmations are considered

aligned with the 75% benchmark. When this region is included, the cumulative total rises to 25 countries out of 58 reporting globally, or 44.8%, nearly half of all reporting countries.

When measured against the broader context of 184 countries historically considered endemic for at least one NTD, the global coverage stands at 13.6% (25/184). While this represents a meaningful increase from 3.8% in 2022, it highlights the considerable distance still to be covered to fully institutionalize NTD services within national health financing systems.

The 25 countries that met the 75% benchmark as of 2023 include:

- in the South-East Asia Region, all 11 countries: Bangladesh, Bhutan, DPR Korea, India, Indonesia<sup>1</sup>, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste;

<sup>1</sup> In accordance with resolution WHA78.25 (2025), Indonesia was reassigned to the WHO Western Pacific Region as of 27 May 2025.

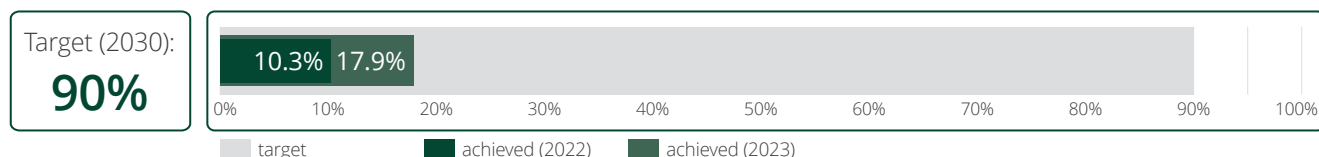
- in the African Region, six countries: Eswatini, Liberia, Mali, Mauritius, Senegal and South Africa;
- in the Eastern Mediterranean Region, three countries: the Islamic Republic of Iran, Saudi Arabia and Sudan;
- in the Western Pacific Region, four countries: Malaysia, the Philippines, Singapore and Vanuatu; and
- in the European Region, one country: Spain.

Despite this progress, more than 85% of endemic countries globally still fall short of meeting this benchmark. Closing this gap will require coordinated

technical assistance, high-level advocacy, and strengthened alignment between NTD programmes and national financing and service delivery platforms. Strategic policy dialogue must also be prioritized to embed NTD interventions within broader health reforms, including universal health coverage and primary health care.

As the road map targets for 2030 draw closer, ensuring that NTD interventions are embedded in essential service packages – and backed by domestic financing – will be critical to protecting past gains, expanding access to care and ensuring no one is left behind.

### Cross-cutting indicator 8: Share of countries with guidelines for management of neglected tropical disease-related disabilities within national health systems, 2023



National guidelines for the management of disabilities caused by NTDs are a critical component of inclusive, patient-centred care. These guidelines help ensure that health systems are equipped to manage long-term physical, psychological and social impairments. This indicator tracks whether countries have dedicated national policies, protocols or guidance in place for managing NTD-related disabilities.

To meet the benchmark, countries must report having guidelines that address at least 75% of the NTDs known to cause disability that are prevalent in the country. The indicator is tracked annually but measured cumulatively; once a country meets the threshold, it is counted as having achieved the milestone in subsequent years, reflecting sustained inclusion rather than year-to-year variation.

NTD-related disabilities can arise from a wide range of conditions, including Buruli ulcer, dracunculiasis, leprosy, lymphatic filariasis, mycetoma, noma, onchocerciasis and snakebite envenoming. Addressing the chronic, often stigmatizing and lifelong consequences of these diseases requires coordinated efforts and national-level guidance that supports early detection, long-term care, rehabilitation and social reintegration. Similarly, an improvement in generation, collection, analysis and dissemination of data on disability is imperative to document the associated burden, report on related activities and guide informed decision- and policy-making.

### Global and regional progress

As of 2023, a cumulative total of 33 countries have met the benchmark. This includes 24 countries reporting through the GNARF and an additional nine countries from the South-East Asia Region that shared information through regional reporting mechanisms. These countries confirmed that they have guidelines in place for at least 75% of relevant NTDs with disabling consequences.

This cumulative total represents a significant increase from 2022, when only 19 countries had met the benchmark. Once countries develop and adopt national guidelines, they are unlikely to reverse this progress unless policies are explicitly repealed or lapse. Therefore, cumulative reporting reflects sustained inclusion and recognizes countries that have achieved the benchmark at any time, provided there is no indication of regression. These include:

- in the African Region: Benin, Burkina Faso, Burundi, the Central African Republic, Guinea, Ghana, Kenya, Liberia, Mali, Niger, Mauritania, Mauritius, Mozambique, Sao Tome and Principe, Senegal, South Africa, Togo and the United Republic of Tanzania. Other countries such as Côte d'Ivoire is known to have adopted national policies on disability that include NTDs but did not report this information to WHO;
- in the Eastern Mediterranean Region: the Islamic Republic of Iran and Yemen;
- in the Western Pacific Region: French Polynesia, the Lao People's Democratic Republic, Malaysia and the Philippines; and

- in the South-East Asia Region: Bangladesh, Bhutan, the Democratic People's Republic of Korea, India, Indonesia<sup>1</sup>, Maldives, Nepal, Sri Lanka and Thailand).

### Strategic importance

The presence of national guidelines is not merely a procedural achievement; it is foundational to ensuring that people affected by NTDs receive the rehabilitation, social protection and long-term care they need. Disabilities resulting from NTDs often lead to stigma, social exclusion and loss of livelihood. Effective guidelines support early detection, medical rehabilitation, mental health care and community-based support. National guidelines also play a strategic role in enabling the inclusion of morbidity and disability management services into community or national health insurance schemes and systems for benefits payments. In countries such as Senegal and Ghana, national guidelines have served as a basis for identifying the cost of service integration, informing policy dialogue and supporting efforts to embed these services within national benefit packages. This broader role reinforces the view that guidelines are not only clinical tools but also key enablers of sustainability, equity and health system integration.

### Moving forward: from policy to practice

Tracking this indicator annually ensures accountability and transparency in mainstreaming disability services

into national health systems. However, cumulative reporting better reflects countries' sustained commitment to disability-inclusive NTD programming.

Despite the increase in countries meeting the benchmark, only 33 of the 178 endemic countries historically affected by disability-related NTDs (17.9%) have national guidelines in place. This highlights the significant gap that still exists in aligning NTD care with broader disability and rehabilitation services within health systems.

To accelerate progress, global health stakeholders must:

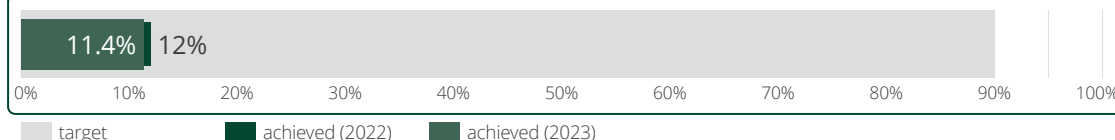
- support countries in developing integrated disability management guidelines tailored to their endemic profiles;
- provide technical assistance to incorporate disability and rehabilitation services within national health plans;
- ensure guidelines are translated into implementation, with dedicated resources, trained personnel and community-level access; and
- promote alignment with broader disability inclusion frameworks, including WHO's *Global report on health equity for persons with disabilities* (31) and universal health coverage agendas.

With continued investment and political will, countries can scale up efforts to protect the dignity, rights and well-being of individuals affected by NTD-related disabilities.

## Country ownership

### Cross-cutting indicator 9: Share of countries reporting on all relevant endemic neglected tropical diseases, 2023

Target (2030):  
**90%**



Comprehensive and timely reporting on NTDs is essential for tracking progress, identifying programmatic gaps, and ensuring effective implementation of national control and elimination strategies. This indicator assesses whether countries endemic for one or more NTDs submitted epidemiological and/or treatment data for at least 75% of the prevalent diseases.

In the 2024 reporting cycle (collecting 2023 data), 52 countries from four regions reported through the GNARF (11). Of these, 39 countries endemic for at least one NTD submitted data on health status (epidemiological data) or intervention coverage. Among them, 17 countries (43.6%) met the 75% completeness threshold, demonstrating strong national engagement in disease surveillance. In addition, four of the 11 endemic countries in the South-East Asia Region met the 75% completeness threshold, as reported to WHO through

<sup>1</sup> In accordance with resolution WHA78.25 (2025), Indonesia was reassigned to the WHO Western Pacific Region as of 27 May 2025.

regional mechanisms. Taken together, this brings the total to 21 of 50 endemic countries (42%) reporting sufficiently on either epidemiological or intervention data in 2023. This reflects a slight decrease in reporting compared with 2022, when 22 of 48 reporting countries (35%) met the same benchmark. (*Note:* The 2022 figure was revised from 32 to 17 following an improvement in methodology to ensure consistency with the indicator definition.)

When measured against the 184 countries historically considered endemic for at least one NTD, global reporting coverage stood at 11.4% (21/184) in 2023, down from 12% (22/184) in 2022.

To build a more complete picture of global reporting, additional submissions through other mechanisms were considered during the 2024 reporting cycle. However, these were not included in the calculation for this indicator.

Specifically:

- 78 countries submitted reports through the JAP on implementing preventive chemotherapy, 19 countries reported epidemiological data and 68 countries submitted requests for preventive chemotherapy medicines for distribution in 2025.
- 121 of 138 endemic countries, areas and territories reported on leprosy via the District Health Information System version 2 (DHIS2).
- 52 countries reported on visceral leishmaniasis and 55 countries on cutaneous leishmaniasis through WIDP (DHIS2).
- 60 countries, including those under surveillance and post-validation monitoring, submitted reports on trachoma through the TEMF.

While other systems such as the JAP, DHIS2 and TEMF continue to play a role, this fragmented reporting landscape limits data coherence. Although 184 endemic countries reported through at least one mechanism, non-compliance with annual reporting via the GNARF hampers efforts to build a centralized, standardized and integrated surveillance system for NTDs.

It is important to recognize that this indicator remains difficult to calculate. Reporting is highly fragmented, with countries using multiple systems across different disease programmes. As a result, the true level of data completeness is likely underrepresented, and gaps may reflect systemic issues in reporting architecture rather than a lack of programmatic activity.

### *Call to action: centralizing NTD reporting*

Achieving full and consistent reporting across all endemic NTDs is essential for programmatic accountability, effective resource allocation and global visibility of progress.

Progress has been made in leveraging multiple platforms, but siloed and duplicative reporting is neither sustainable nor efficient. As countries scale up integrated national systems and approach the 2030 targets, efforts must now focus on:

- integrating all disease reporting into single form/platform and compiled into single global repository for NTD data (NTD SMART);
- phasing out fragmented and duplicative workflows;
- supporting technical harmonization and alignment of reporting standards between the GNARF and national health information systems; and
- enhancing the usability of data reported by Member States, including dashboards, feedback loops, and data validation features.

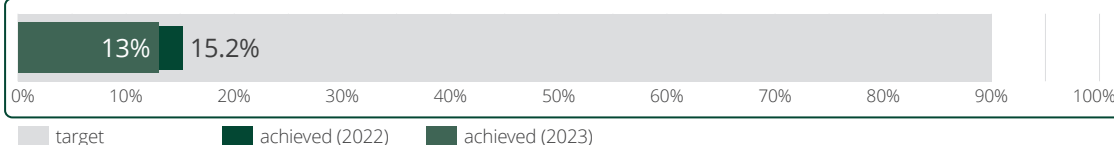
The priority is clear: to streamline and unify NTD data reporting under the concept of “GNARF”, not merely as a form but as a model for integrated reporting across all NTDs. This concept promotes collaboration among NTD disease focal points within health ministries, encouraging coordinated reporting, shared accountability and stronger national ownership. While the GNARF currently functions as an annual reporting tool, its principles – completeness, standardization and integration – can be adapted to any technology or platform, including national health information systems.

Adopting this integrated approach will not only improve data completeness and reduce the reporting burden but also enhance data review processes to help identify gaps and weaknesses in country-level reporting systems, thereby enabling targeted capacity strengthening. As the world moves towards the road map milestones for 2030, a fully integrated NTD reporting ecosystem is not just desirable – it is essential.

## Cross-cutting indicator 10: Share of countries collecting and reporting data on neglected tropical diseases disaggregated by gender, 2023

Target (2030):

**90%**



In 2023, of the 52 countries that submitted reports through the GNARF, 39 reported being endemic for at least one NTD. Among these, 30 countries (76.9%) reported collecting gender-disaggregated data at the national level. However, only 21 countries (53.8%) shared gender-disaggregated data with WHO for at least 75% of prevalent NTDs. An additional three countries from the South-East Asia Region also met this benchmark through

regional reporting mechanisms, bringing the total to 24 of 50 endemic countries (48.0%) reporting sufficiently disaggregated data.

When using the broader denominator of 184 countries historically considered endemic for at least one NTD, the value for this indicator drops to 13.0% (24/184) – a decline from 15.2% (31/184) in 2022.

## 2.1.3 Disease-specific global indicators, milestones and targets for 2030

### 2.1.3.1 Diseases targeted for eradication

#### Dracunculiasis



In 2024, two countries reported a total of 15 human cases of dracunculiasis globally: Chad (9 cases from eight villages) and South Sudan (6 cases from four villages). In 2023, five countries had reported 14 human cases: Chad (9), South Sudan (2), the Central African Republic (1), Mali (1) and Cameroon (1). In 2024, six countries reported a total of 670 infections in animals: Angola, Cameroon, Chad, Ethiopia, Mali and South Sudan, a 26% decrease from 2023 when 886 infections were reported. Most infections occurred in dogs, followed by cats and baboons (32).

As of December 2024, a total of 200 countries, areas and territories, representing 188 WHO Member States, had been certified by WHO as free of *Dracunculus medinensis* transmission, following the recommendation of the International Commission for the Certification of Dracunculiasis Eradication (ICCDE). Six Member States remain uncertified, including five countries in which the disease is still endemic (Angola, Chad, Ethiopia, Mali and South Sudan) and one country (Sudan) at the precertification stage.

In 2024, WHO and its global partners (The Carter Center, UNICEF and the WHO Collaborating Center for Dracunculiasis Eradication at the United States

Centers for Disease Control and Prevention), under the leadership of the relevant country health authorities, supported community- and country-centred interventions, including maintaining surveillance in all endemic and formerly at-risk endemic certified countries, thus continuing the momentum for eradication. Notably, in 2024, community-based active surveillance was maintained in 7854 villages in the six endemic countries, compared with 7365 villages in 2023. All the endemic countries continued to offer cash rewards for voluntary case reporting: in 2024, 663 256 rumoured human cases and 149 310 rumoured animal infections were investigated, with 99% within 24 hours.

On 16–17 September 2024, the Government of Chad – with support from WHO and The Carter Center – organized a high-level advocacy and cross-border meeting to renew the commitment of Chad, Cameroon and the Central African Republic to interrupting transmission of dracunculiasis by 2027, towards certification by 2030.

Further information is available in the Weekly Epidemiological Record (33) and WHO's Global Health Observatory (34).

#### WHO target, milestone and achievement

| Indicator                                          | Target (2030)  | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|----------------------------------------------------|----------------|------------------|-----------------|-----------------|
| Number of countries certified free of transmission | 194/194 (100%) | 189/194 (97%)    | 188/194 (97%)   | 188/194 (97%)   |



The number of cases of yaws reported to WHO for the year 2023 was 222 384. This figure refers to suspected cases of the disease due to infection with *Treponema pallidum pertenue* that were diagnosed based on clinical examination; among the suspected cases, 1496 were confirmed by a serological diagnostic test.

Most suspected cases were reported from the Western Pacific Region (112 790; 50.7%), followed by the South-East Asia (88 646; 39.9%) and African (20 948; 9.4%) regions. These suspected cases were reported from 14 countries: Papua New Guinea (100 165), Indonesia<sup>1</sup> (88 646), the Solomon Islands (9402), Côte d'Ivoire (8200), Ghana (5106), Togo (4886), Vanuatu (3220), the Democratic Republic of the Congo (1024), Congo (625), Cameroon (535), the Central African Republic (274), Benin (203), Liberia (95) and Malaysia (3). These 14 countries are all among the 16 currently endemic countries for yaws (Group A). Two additional countries (the Philippines and Timor-Leste) are classified by WHO as “currently endemic”; however neither country reported cases in 2023. The classification of countries for certification of interruption of yaws transmission is described in *Eradication of yaws: a guide for programme managers* (35).

In 2022, the number of suspected cases reported to WHO was 209 711 from 15 countries, of which 1528 were serologically-confirmed yaws cases. Fig. 2.18 shows the number of reported yaws cases in 2020–2023.

Two other countries (Burkina Faso and South Sudan), which are currently classified in Group B (previously endemic, current status unknown), have reported cases of yaws and/or being endemic for yaws through the GNARF. The WHO Global NTD Programme, along with the focal points in the WHO Regional Office for Africa

and relevant country offices, plans to investigate and assess the status of endemicity of both countries. In the meantime, WHO recommends and encourages national programmes to continue their efforts for intensified surveillance, with continued capacity strengthening activities of health-care workers.

Other progress made in 2024 includes completing the inclusion of yaws in the skin NTD LABNET (previously BU-LABNET), which had been initiated in 2023 (36,37).

Additionally, progress has been made towards the establishment of a certification process for eradication of yaws. Notably, in 2024 official correspondence was sent by WHO to countries in categories B and C, which includes:

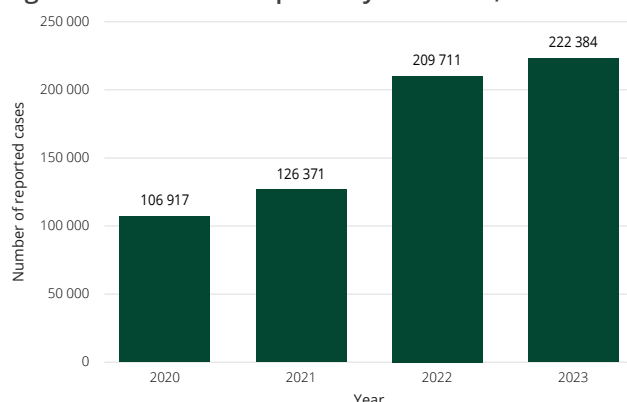
- a questionnaire supporting a request for certification of interruption of yaws transmission;
- a Form for Declaration of status of yaws endemicity (for 82 previously endemic countries, with unknown current status; Group B); and
- a Form for Declaration of yaws-free status (for 106 countries with no history of yaws; Group C).

The process for establishing a joint commission to oversee certification processes for both dracunculiasis and yaws was initiated in 2024 but is not yet completed. In March 2023, WHO convened an informal working group to draft a guidance document for conducting serological surveys to assess interruption of transmission of yaws in countries. The working group was composed of independent experts from multiple disciplines. The guidance is undergoing a rigorous review process and is expected to be published by the end of 2025. In the meantime, countries such as Timor-Leste have conducted surveys to demonstrate interruption of transmission. In the Region of the Americas, a protocol targeting children aged under 15 years has been developed by Ecuador, with the aim of confirming interruption of yaws transmission; the survey is scheduled by the end of 2025.

Despite some progress made by countries, major gaps remain in surveillance and diagnosis, as highlighted by the very small proportion of suspected cases that are actually confirmed as well as in access to treatment, despite the fact that azithromycin has been donated through WHO since 2019. Urgent action is required to address these gaps, including by promoting integration of activities against yaws with those directed against other diseases, for example through the skin NTD framework (18).

Further information is available in the Weekly Epidemiological Record (38) and WHO's Global Health Observatory (39).

**Fig. 2.18. Number of reported yaws cases, 2020–2023**



Data source: Health ministries

<sup>1</sup> In accordance with resolution WHA78.25 (2025), Indonesia was reassigned to the WHO Western Pacific Region as of 27 May 2025.

### WHO target, milestone and achievement

| Indicator                                          | Target (2030)  | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|----------------------------------------------------|----------------|------------------|-----------------|-----------------|
| Number of countries certified free of transmission | 194/194 (100%) | 97/194 (50%)     | 1/194 (0.5%)    | 1/194 (0.5%)    |

### 2.1.3.2 Diseases targeted for elimination (interruption of transmission)

#### Human African trypanosomiasis (gambiense)



In 2023, 10 countries reported 675 cases of gambiense human African trypanosomiasis: the Democratic Republic of the Congo (394); the Central African Republic (104); Angola (52); South Sudan (50); Guinea (24); Congo (14); Gabon (12); Cameroon (11); Chad (7); and Equatorial Guinea (7). Among the remaining endemic countries, 13 reported zero cases, while one failed to report data to WHO.

In 2022, a total of 799 cases had been reported from the same 10 countries. The number of cases was 25 841 in 2000, showing a 97.4% reduction over the period 2000–2023. Fig. 2.19 shows the number of reported cases of gambiense human African trypanosomiasis in 2020–2023.

The road map calls for the interruption of transmission of gambiense human African trypanosomiasis. A dedicated verification process was established by WHO in 2023; relevant criteria and procedures were published in 2023 (40). So far, no country has completed this process.

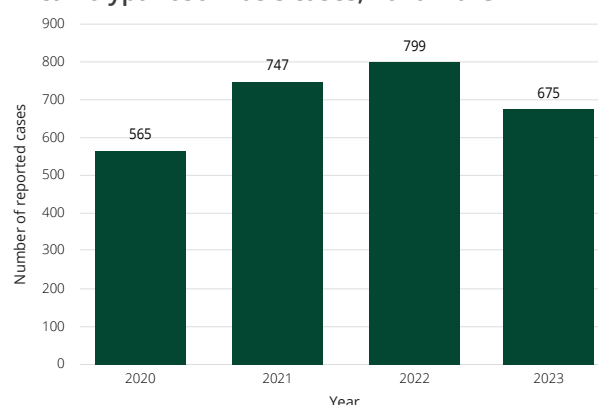
Nevertheless, countries continue to be acknowledged for the less ambitious goal of elimination as a public health problem: those reporting < 1 case per 10 000 inhabitants per year, on average, in each health district for 5 consecutive years, and demonstrating adequate surveillance activities, are eligible to request WHO validation. As of December 2024, seven countries had

been validated: Côte d'Ivoire and Togo in 2020; Benin in 2021; Equatorial Guinea and Uganda in 2022; Ghana in 2023; and Chad in April 2024 (41).

As of end 2024, a total of 24 countries were considered endemic, including the seven validated countries, where work continues towards interruption of transmission.

Updated *Guidelines for the treatment of human African trypanosomiasis* (42) were released by WHO in June 2024.

**Fig. 2.19. Number of reported gambiense human African trypanosomiasis cases, 2020–2023**



Data source: Health ministries

Further information is available in WHO's Global Health Observatory (43).

### WHO target, milestone and achievement

| Indicator                                                     | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|---------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries verified for interruption of transmission | 15/24 (62%)   | 0                | 0               | 0               |

| Indicator                            | Target (2030) | Milestone (2023) | Achieved (2022) | Achieved (2023) |
|--------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of gHAT cases reported (2023) | 0             | 500              | 799             | 675             |

#### Leprosy



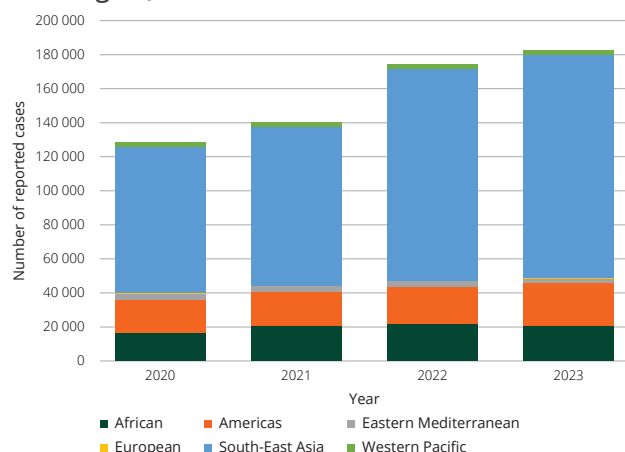
Reports on leprosy for 2023 were received from 184 countries, territories and areas, of which 56 reported zero cases. Globally, 182 815 new cases were detected and reported from all WHO regions: 71.9% from the South-East Asia Region, 13.6% from the Region of the

Americas, 11.5% from the African Region, 1.5% from the Eastern Mediterranean Region, 1.5% from the Western Pacific and < 1% from the European Region. The top three countries (India, Brazil and Indonesia) accounted for 79.3% of all the cases detected

globally (145 000), while the 23 global priority countries accounted for 174 967 cases (95.7%).

Globally, the number of reported new cases increased by 5% from 2022 (174 098), reflecting the gradual resumption of both active and passive case-detection activities after the disruptions caused by the COVID-19 pandemic. Fig. 2.20 shows the number of new reported cases of leprosy in 2020–2023.

**Fig. 2.20. Number of new reported leprosy cases by WHO region, 2020–2023**



Data source: Health ministries

The occurrence of new leprosy cases among children (aged < 15 years) is an indicator of recent transmission: in 2023, overall, 10 322 new cases (5.7% of the total) were children, corresponding to a rate of 3.9 cases per million children, a significant improvement from 2022 (5.1), which places the value for this indicator well below the milestone set for 2023. The occurrence of grade 2 disability (G2D) among new cases indicates delayed detection and treatment: in 2023, the number of new cases with G2D was 9729 (5.3%), equivalent to

a rate of 1.2 cases per million population, in line with the 2022 value. The distinction between multibacillary and paucibacillary leprosy, largely based on observation of the number of skin lesions and nerve involvement at the time of detection, orientates the duration of the treatment regimen with multi-drug therapy (MDT): in 2023, some 125 752 (68.8%) new cases were reported to be multibacillary, thus requiring a 12-month MDT regimen, as compared with the paucibacillary cases, for whom a 6-month regimen is rather recommended.

Globally, 72 844 new cases of leprosy were reported among women (39.9% of the total) in 2023, confirming a decade-long trend that sees new female cases consistently < 40%. Overall, non-autochthonous cases represented a very small number (378); nevertheless, a very large proportion of the new cases detected in the European Region (67.5%) falls into this category.

Following the programmatic shift from “elimination of leprosy as a public health problem” to “interruption of transmission and elimination of leprosy disease” and the release of the related technical guidance on *Interruption of transmission and elimination of leprosy disease* in 2023 (44), WHO has established a process to officially acknowledge countries that claim the achievement of this ambitious target. In August 2024, Jordan was the first country to be verified and acknowledged for elimination of leprosy disease (45). In order to accelerate progress towards interruption of transmission of *Mycobacterium leprae*, WHO recommends the administration of PEP with single-dose rifampicin to eligible contacts identified through screening: in 2023, 28 countries reported implementing this intervention.

Further information is available in the Weekly Epidemiological Record (46) and WHO’s Global Health Observatory (47).

### WHO target, milestone and achievement

| Indicator                                                          | Target (2030) | Milestone (2023) | Achieved (2022) | Achieved (2023) |
|--------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries with zero new autochthonous cases              | 120/194 (62%) | 75/194 (39%)     | 54/194 (28%)    | 56/194 (28.9%)  |
| Annual number of new leprosy cases detected                        | 62 500        | 148 000          | 174 098         | 182 815         |
| Rate (per million population) of new cases with grade 2 disability | 0.12          | 0.92             | 1.2             | 1.2             |
| Rate (per million children) of new child cases with leprosy        | 0.77          | 5.66             | 5.1             | 3.9             |

## Onchocerciasis

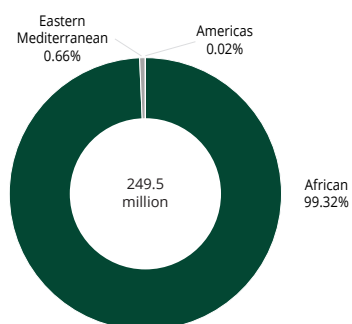


In 2023, about 250 million people in 28 countries required preventive chemotherapy for onchocerciasis, 99.3% of whom lived in 24 countries of the African Region, 0.66% in two countries of the Eastern Mediterranean Region and 0.02% in two countries in

the Region of the Americas (Fig. 2.21). This corresponds to approximately 4 million more people than in 2022 (246 million in 29 countries).

Thanks to disease control interventions implemented over the past decades, several geographical areas in the

**Fig. 2.21. Number of people requiring preventive chemotherapy for onchocerciasis by WHO region, 2023**



Data source: WHO/Global Health Observatory

African, Americas and Eastern Mediterranean regions are now considered no longer requiring preventive chemotherapy for onchocerciasis; by the end of 2023, 18.9 million people were living in these areas, with preliminary results indicating a further progress in 2024. Nevertheless, an increase in the global number of people requiring preventive chemotherapy for onchocerciasis was observed between 2022 and 2023; this was due to several reassessments of the disease's epidemiological status in a large number of countries, which led to an overall increase, including in the two highest-burden countries (the Democratic Republic of the Congo (+0.6 million) and Nigeria (+3.4 million)), although in the third highest-burden country (Ethiopia), such reassessments led to an overall reduction of one million.

As of December 2024, the epidemiological and programmatic status of onchocerciasis was as follows:

- Four countries, all in the Region of the Americas, had been verified by WHO as having interrupted transmission of *Onchocerca volvulus*: Colombia (2013), Ecuador (2014), Mexico (2015) and Guatemala (2016).
- Six countries had stopped MDA and moved to post-elimination or post-treatment surveillance for 100% of the population requiring preventive chemotherapy (the four verified countries in the above group plus Equatorial Guinea and Senegal, respectively).
- Nine countries had stopped MDA and moved to post-treatment surveillance for more than 50% of the population requiring preventive chemotherapy (the six countries in the above group plus the Bolivarian Republic of Venezuela, Sudan and Uganda).
- 17 countries had stopped MDA in at least one focus (the nine countries in the above group plus Ethiopia, Ghana, Malawi, Mali, Nigeria, Togo, the United Republic of Tanzania and Yemen).

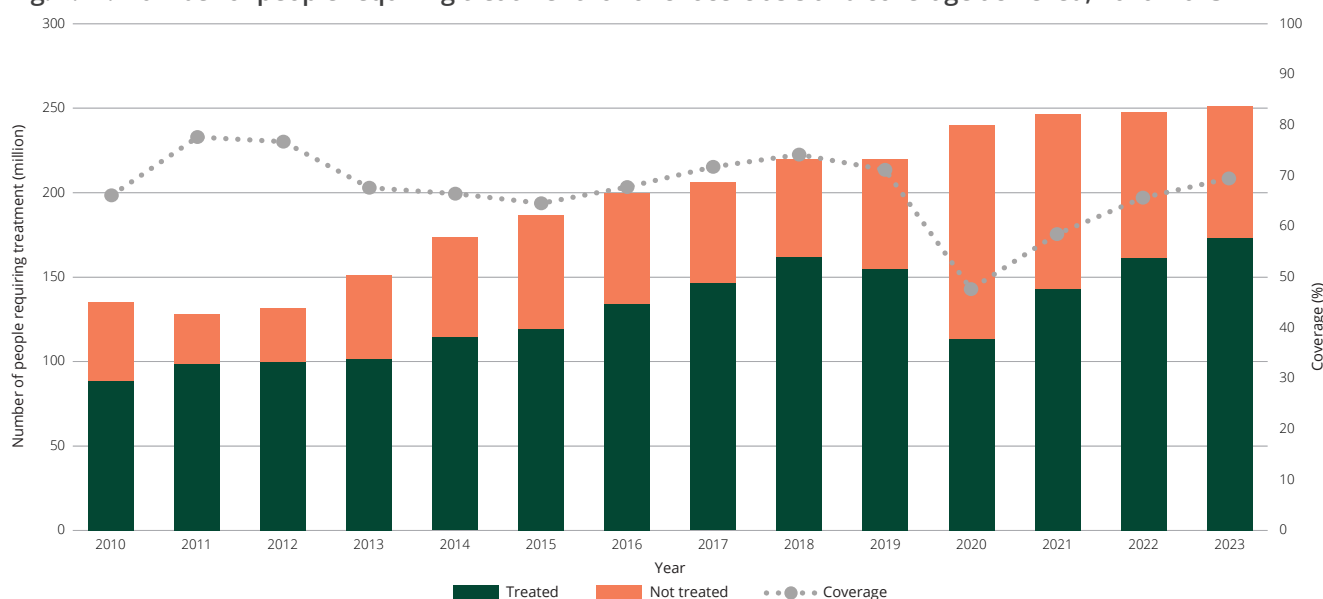
- An additional group of 17 countries (Angola, Benin, Brazil, Burkina Faso, Burundi, Cameroon, the Central African Republic, Chad, Congo, Côte d'Ivoire, the Democratic Republic of the Congo, Gabon, Guinea, Guinea-Bissau, Liberia, Sierra Leone and South Sudan) were considered endemic but did not fall in any of the above categories.
- Three countries (Kenya, Mozambique and Rwanda), although not confirmed as non-endemic, were thought not to require preventive chemotherapy.
- One country (Niger) had applied to WHO for verification of interruption of *O. volvulus* transmission.

In 2023, 172 million people were treated with ivermectin in 23 countries. This is the highest number of people reached by MDA with ivermectin ever recorded in a given year, and corresponds to 12 million more people than in 2022, when 160 million people had received treatment in 26 countries. Overall, this confirms the positive trend observed since 2021, indicating a strong recovery after the disruptions caused by COVID-19. The increase in numbers of people treated registered between 2022 and 2023 largely reflected scale-up of MDA in Nigeria (+10 million) and Ethiopia (+4 million). The treatment coverage achieved in 2023 (69%) was also higher than in 2022 (65.3%), and not too far from the levels reached during the pre-COVID-19 period (e.g. 70.7% in 2019), as shown in Fig. 2.22.

In 2024, progress was made in different areas, including cross-border collaboration (such as the potential establishment of a binational information system in the Yanomami focus area between Brazil and the Bolivarian Republic of Venezuela), the publication of *Onchocerciasis elimination mapping: a handbook for national elimination programmes* (48), discussion and recommendations on use of current diagnostic tests, field testing of two new rapid, point-of-care antibody tests, and further consolidation of the planning and implementation of the financial support made available by the Reaching the Last Mile Fund for elimination of onchocerciasis.

Further information is available in the Weekly Epidemiological Record (49,50) and WHO's Global Health Observatory (51).

**Fig. 2.22. Number of people requiring treatment for onchocerciasis and coverage achieved, 2010–2023**



Data source: WHO/Global Health Observatory

### WHO target, milestone and achievement

| Indicator                                                          | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|--------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries verified for interruption of transmission      | 12/38 (31%)   | 5/38 (13%)       | 4/38 (11%)      | 4/38 (11%)      |
| Number of countries that stopped MDA for $\geq 1$ focus            | 34            | 22               | 14              | 17              |
| Number of countries that stopped MDA for $\geq 50\%$ of population | >16           | 10               | 9               | 9               |
| Number of countries that stopped MDA for 100% of population        | <12           | 6                | 6               | 6               |

### *Global Onchocerciasis Network for Elimination (GONE) – 2024 highlights*

In 2024, the Global Onchocerciasis Network for Elimination (GONE), led by WHO, continued its role in supporting countries to accelerate progress towards the targets outlined in the road map.

In 2024, the network prioritized strengthening communication and partnerships, with a focus on enhancing cross-border collaboration, a key requirement of the 2016 WHO *Guidelines for stopping mass drug administration and verifying elimination of human onchocerciasis* (52), which emphasize the need to consider the risk associated with cross-border transmission when countries undergo the process for verification of elimination of human onchocerciasis.

Key achievements in 2024 included:

- the launch of a new GONE website offering access to publications, event details, reports, and webinars (53);
- development of a cross-border database and operational plans to support monitoring of 2025 priorities and stakeholder mapping;
- hosting of monthly country webinars to review progress and outlooks of national elimination programmes;
- facilitation of collaboration among National Onchocerciasis Elimination Committee (NOEC) chairs, contributing to a practical guide for NOECs; and
- drafting of memoranda of understanding between neighbouring countries to formalize coordinated efforts and resource-sharing.

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

#### Chagas disease



Over 7 million people worldwide are estimated to be infected with *Trypanosoma cruzi*, the protozoan parasite responsible for Chagas disease. Due to its biomedical, social and environmental determinants, it is estimated that 100 million people are at risk of infection and almost 10 000 die every year due a late or inexistent diagnosis and treatment.

As of December 2024, 44 countries had detected Chagas disease cases. Although a condition of increasing global presence, Chagas disease is found mainly in endemic areas of 21 continental Latin American countries, followed by the United States of America, Canada, 17 European countries, and also a few Western Pacific, African and Eastern Mediterranean countries, all of which had been provided with technical support and antiparasitic medicines.

Efforts are ongoing to quantify actual incidence and prevalence of Chagas disease. Six countries (Brazil, Chile, Ecuador, Mexico, Paraguay and Uruguay) have already established national regulations for reporting acute and chronic cases and for conducting epidemiological surveillance of disease transmission. Other countries, such as Colombia and Spain, have significantly increased surveillance coverage.

As of December 2024, interruption of domiciliary vectorial transmission had been verified in the entire national territories of three countries in the Region of the Americas: Chile, Paraguay and Uruguay, and in a proportion of the national territories of five other countries: Argentina, Brazil, Colombia, Peru and the Plurinational State of Bolivia, for a total of eight countries.

At the same date, universal screening of blood donors was fully implemented in several continental Latin American countries: Argentina, Belize, the Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, the Plurinational State of Bolivia, Suriname and Uruguay. Canada and the United States of America have adopted national recommendations of testing all donors identified by a questionnaire as being at risk of infection.

In the European Region, both screening of blood donors and screening of donors and receivers before organ transplantation were recommended in the European Union and implemented in Belgium, France (including French Guiana), Italy, Netherlands (Kingdom of the), Portugal, Spain, Sweden, Switzerland and the United Kingdom of Great Britain and Northern Ireland.

In the Western Pacific Region, Japan has implemented universal screening of blood donors and screening before organ transplantation, while Australia recommended universal screening of blood donors and before organ transplantation targeted to people at risk of infection.

With the significant reduction of vectorial transmission in Latin America, congenital transmission has become the most relevant route worldwide. Interventions for elimination of transmission of congenital Chagas disease have been initiated in several countries in the Americas and in two countries in Europe (Spain and Switzerland). These activities rely on the screening for *T. cruzi* infection of girls and women of childbearing age, followed by administration of antiparasitic treatment to positive cases, and screening of pregnant women at risk of infection, followed by antiparasitic treatment of all infected newborns and siblings, and infected mothers after breastfeeding. The region of Murcia, a first administrative division of Spain, is the first area to claim to have achieved sustained interruption of congenital transmission over the past eight years, as no children affected by Chagas disease have been born in Murcia since 2017.

Nifurtimox for all ages and benznidazole for paediatric age (< 19 years) are donated through WHO and have been made available free of charge for treatment of people affected by Chagas disease since 2011 and 2020 respectively (Annex 2). Benznidazole can also be procured at a “no-profit” price through PAHO’s Revolving Fund and through the Mundo Sano Foundation/Insud Pharma.

World Chagas Disease Day was established by World Health Assembly decision WHA72(20) on 28 May 2019 (54) and has been observed since 14 April 2020 (55). Each year, a main theme was identified by the global community of actors working on Chagas disease, as follows: “Let’s make Chagas disease visible now” (2020), “Comprehensive, equitable health care services for all people affected by Chagas disease” (2021), “Finding and reporting every case to defeat Chagas disease” (2022), “Time to integrate Chagas disease into primary health care” (2023), “Tackling Chagas disease: detect early and care for life” (2024), and “Prevent, Control, Care: Everyone’s role in Chagas disease” (2025). The series of themes proposes programmatic objectives for any country willing to engage in the elimination of Chagas disease as a public health problem by 2030.

## WHO target, milestone and achievement

| Indicator                                                                                                                                                                                                                     | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries achieving interruption of transmission through the four transmission routes (vectoral, transfusion, transplantation and congenital), with 75% antiparasitic treatment coverage of the eligible population | 15/41 (37%)   | 4/41 (10%)       | 0               | 0               |
| Number of countries achieving verification of interruption of domiciliary vectoral transmission                                                                                                                               | 18/21 (86%)   | 9/21 (43%)       | 8/21 (38%)      | 8/21 (38%)      |
| Number of countries achieving verification of interruption of transfusional transmission                                                                                                                                      | 41/41 (100%)  | 5/41 (12%)       | 0               | 0               |
| Number of countries achieving verification of interruption of organ transplantation transmission                                                                                                                              | 41/41 (100%)  | 5/41 (12%)       | 0               | 0               |
| Number of countries achieving verification of interruption of congenital transmission                                                                                                                                         | 15/41 (37%)   | 4/41 (10%)       | 0               | 0               |

## Human African trypanosomiasis (rhodesiense)



In 2023, four countries reported 24 cases of rhodesiense human African trypanosomiasis: Malawi (16 cases), Zambia (5), Ethiopia (2) and the United Republic of Tanzania (1). An additional group of five endemic countries reported zero cases, while four other countries, also endemic, did not report data to WHO.

In 2022, 38 cases had been reported from the same four countries. This confirms the decreasing trend observed since 2020. In 2000, the number of cases reported to WHO was 709, showing a 96.6% reduction over the period 2000–2023. Most cases are now related to wildlife reservoirs, rather than to cattle. Fig. 2.23 shows the number of reported cases of rhodesiense human African trypanosomiasis in 2020–2023.

The road map calls for the elimination of rhodesiense human African trypanosomiasis as a public health problem: countries reporting < 1 case per 10 000 inhabitants per year, on average, in each health district for 5 consecutive years, and demonstrating adequate surveillance activities, are eligible to request WHO for validation. As of December 2024, only one country (Rwanda) had been validated (in 2022).

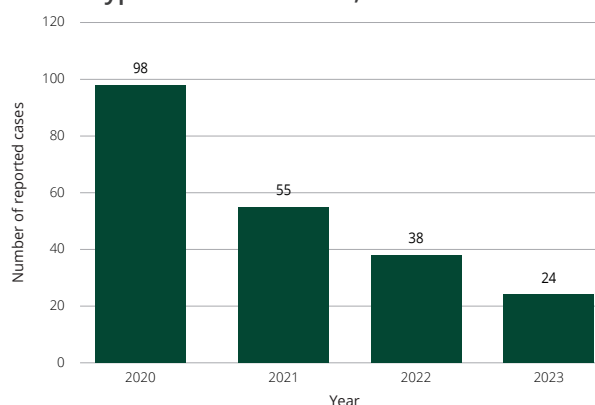
A total of 13 countries are currently considered endemic: Botswana, Burundi, Eswatini, Ethiopia, Kenya, Malawi, Mozambique, Namibia, Rwanda, Uganda, the United Republic of Tanzania, Zambia, Zimbabwe; Rwanda,

although validated for elimination of rhodesiense human African trypanosomiasis as a public health problem, remains endemic.

Updated *Guidelines for the treatment of human African trypanosomiasis* (42) were released by WHO in June 2024.

Further information is available in the Weekly Epidemiological Record (56) and WHO's Global Health Observatory (43).

**Fig. 2.23. Number of reported rhodesiense human African trypanosomiasis cases, 2020–2023**



Data source: Health ministries

## WHO target, milestone and achievement

| Indicator                                                                                                                                                                                             | Target (2030) | Milestone (2023)     | Achieved (2023)        | Achieved (2024)      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------|------------------------|----------------------|
| Number of countries validated for elimination as a public health problem (defined as < 1 case/10000 people per year, in each health district of the country averaged over the previous 5-year period) | 8/13 (61%)    | 2/13 (15%)           | 1/13 (8%)              | 1/13 (8%)            |
| Indicator                                                                                                                                                                                             | Target (2030) | Milestone (2023)     | Achieved (2018–2022)   | Achieved (2020–2024) |
| Area with ≥ 1 rHAT case per 10 000 people (average of 5 years)*                                                                                                                                       | 0             | 5000 km <sup>2</sup> | 14 913 km <sup>2</sup> | NA                   |

NA: information not available.

\* The relevance of this indicator is under review as the majority of cases of rhodesiense human African trypanosomiasis currently occur in uninhabited areas such as national parks; as such, using resident population as the denominator is considered inappropriate.

## Visceral leishmaniasis



Based on 2023 data, 80 countries are considered endemic for visceral leishmaniasis and five have previously reported cases. In 2023, the number of cases of visceral leishmaniasis reported to WHO was 11 954, of which 11 793 were autochthonous and 161 imported. Reporting countries were 52 (in 2022, a total of 13 028 cases had been reported from 47 countries).

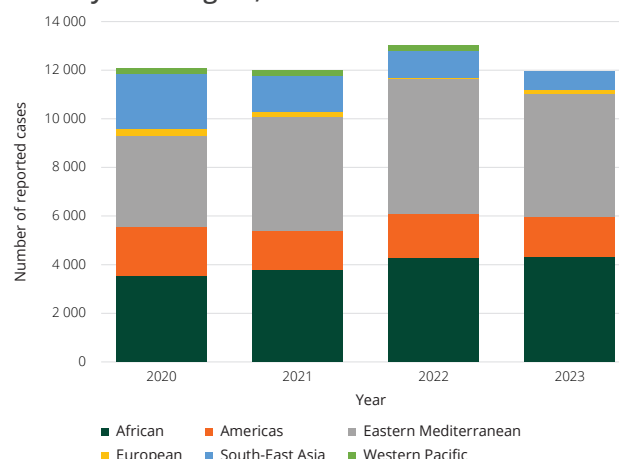
Most cases (new plus imported) occurred in the Eastern Mediterranean Region (5057, 42.3%), followed by the African (4342, 36.3%), Americas (1608, 13.5%), South-East Asia (745, 6.2%) and European (202, 1.7%) regions; no cases were reported from the Western Pacific Region (China had consistently reported between 166 and 239 cases/year over the past quinquennium, but did not report information for 2023).

The countries reporting the largest number of cases in 2023 were Brazil, Ethiopia, Kenya and Sudan, all exceeding 1000 cases each, and accounting for 66% of the global burden. These countries belong to the first and second of the three eco-epidemiological hotspots for visceral leishmaniasis – eastern Africa and South America – which are then followed by the Indian sub-continent.

Fig. 2.24 shows the number of reported cases of visceral leishmaniasis in 2020–2023, by WHO region; the number has remained relatively stable over the mentioned period. Nevertheless, globally, the number of reported cases of visceral leishmaniasis has decreased by 62% in 2014–2023, largely because of major progress in the South-East Asia Region (Bangladesh, India and Nepal), which has entailed a shift of the burden to the African, Eastern Mediterranean and Americas regions.

Available data, although incomplete, indicate that 50% of the cases reported in 2023 occurred in people aged ≥ 15 years, 26% in those aged 5–14 years and 24% in those aged < 5 years; that 62% of the cases were male;

**Fig. 2.24. Number of reported visceral leishmaniasis cases by WHO region, 2020–2023**



Data source: Health ministries

and that 467 were coinfecting with *Leishmania* spp. and HIV.

The number of cases of post-kala-azar dermal leishmaniasis (PKDL), a sequel of visceral leishmaniasis representing a potential reservoir of infection, was 483 in 2023, 67% of which were reported from India.

In 2023, the reported number of deaths due to visceral leishmaniasis (all types of cases: new, relapse and unspecified) was 416 from 17 countries, with the largest numbers occurring in Brazil (174, 42%), followed by Sudan (94, 22.6%), Ethiopia (38, 9.1%), South Sudan (28, 6.7%), Paraguay (25, 6%) and India (17, 4%). In the same year, the case-fatality rate among new cases was ≥ 1% in 15 out of the 17 countries reporting at least 1 death, and ≥ 2% in 14 out of 17 countries.

As of December 2024, Bangladesh is the only country that has been validated by WHO for eliminating visceral leishmaniasis as a public health problem, with major

progress recorded in both India and Nepal (where all implementation units have achieved the elimination threshold). In June 2024, WHO launched a *Strategic framework for the elimination of visceral leishmaniasis as a public health problem in eastern Africa 2023–2030* (57,58), whose principles and recommendations were endorsed

by all the nine countries in the eastern Africa hotspot through the Nairobi Declaration (59), as well as by other stakeholders.

Further information is available in the Weekly Epidemiological Record (60) and WHO’s Global Health Observatory (61).

### WHO target, milestone and achievement

| Indicator                                                                                                                                                                                                                    | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries validated for elimination as a public health problem (defined as < 1% case-fatality rate due to primary visceral leishmaniasis)                                                                          | 64/75 (85%)   | 32/75 (43%)      | 0               | 0               |
| Number of countries in SEAR validated for elimination as a public health problem (defined as < 1 case (new and relapses) per 10 000 population at district level in Nepal and at sub-district level in Bangladesh and India) | 3/3 (100%)    | 3/3 (100%)       | 1/3 (33%)       | 1/3 (33%)       |
| Indicator                                                                                                                                                                                                                    | Target (2030) | Milestone (2023) | Achieved (2022) | Achieved (2023) |
| In SEAR, cases of PKDL detected (VL post-treatment follow-up 3 years) and treated                                                                                                                                            | 100%          | 90%              | NA              | NA              |

NA: information not available; SEAR: WHO South-East Asia Region; PKDL: post-kala-azar dermal leishmaniasis; VL: visceral leishmaniasis.

### Lymphatic filariasis

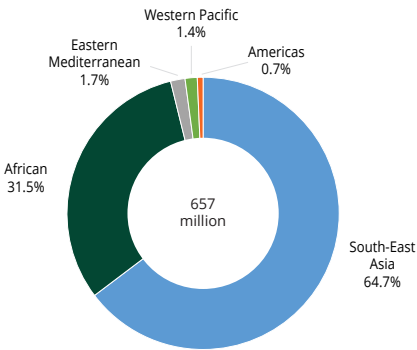


In 2023, 657 million people in 38 countries required preventive chemotherapy for lymphatic filariasis, of whom 64.7% lived in the South-East Asia, 31.5% in the African, 1.7% in the Eastern Mediterranean, 1.4% in the Western Pacific and 0.7% in the Americas regions. This corresponds to approximately 137 million fewer people than in 2022 (794 million in 41 countries) (Fig. 2.25).

In 2023, 412 million people were treated with ivermectin and albendazole; diethylcarbamazine citrate and albendazole; or with the three medicines combined (triple therapy, or IDA) in 31 countries. This corresponds to a significant increase (+86 million) from 2022 (326 million in 32 countries). The increase in numbers treated, coupled with the decrease in the number of people requiring preventive chemotherapy, resulted in a coverage of 62.8%, up from 41% in 2022, and in line with the highest levels achieved before COVID-19 (63% in both 2018 and 2019) (Fig. 2.26).

The decrease in the population requiring preventive chemotherapy for lymphatic filariasis was mainly due to the fact that several countries achieved the disease-specific criteria for stopping MDA nationwide or subnationally and moved to the post-MDA impact assessment stage. For example, between 2022 and 2023 the three highest-burden countries (India, Nigeria and the Democratic Republic of the Congo) witnessed a 41-million decrease, a 60-million decrease and a 7-million decrease, respectively. The increase in numbers treated between 2022 and 2023 largely reflected the

**Fig. 2.25. Number of people requiring preventive chemotherapy for lymphatic filariasis by WHO region, 2023**

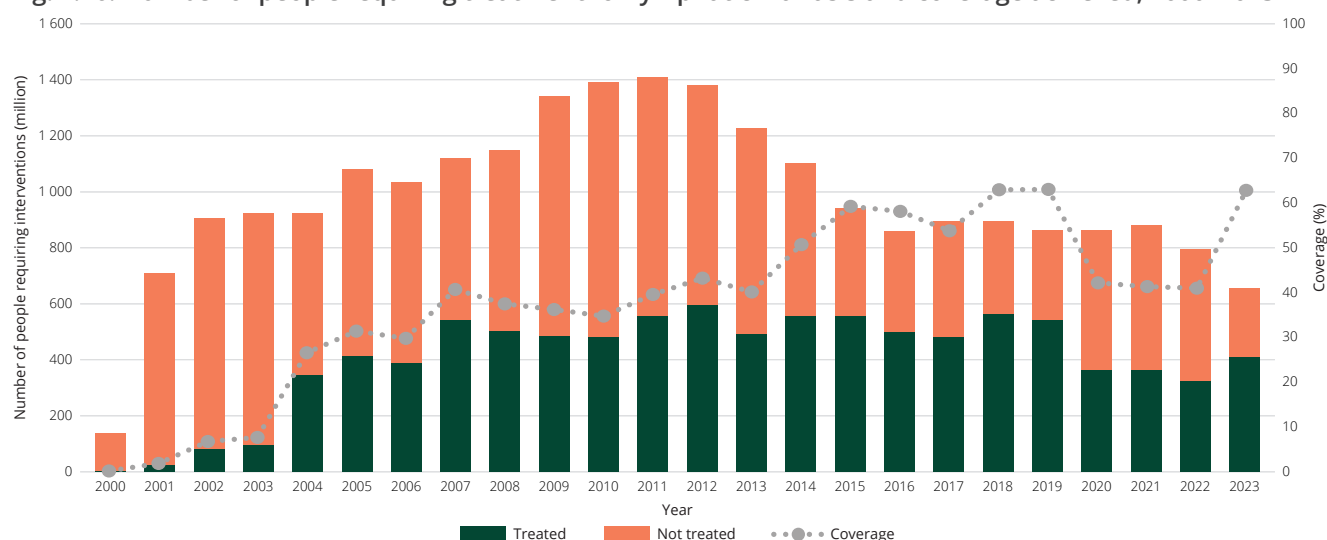


Data source: WHO/Global Health Observatory

implementation of a nationwide MDA round in India that reached over 279 million people, 127 million more than in 2022, while other high-burden countries, such as Nigeria and the Democratic Republic of the Congo, saw reductions in numbers treated, largely because of the reduced number of people requiring this intervention, as detailed above.

As of end 2024, 32 countries no longer required MDA nationally, 11 were in the post-MDA surveillance phase and 21 countries had met criteria and been acknowledged for elimination of lymphatic filariasis as a public health problem, including two (Brazil and Timor-Leste) validated in 2024. Post-validation surveillance must be established and continued in these countries.

**Fig. 2.26. Number of people requiring treatment for lymphatic filariasis and coverage achieved, 2000–2023**



Data source: WHO/Global Health Observatory

Progress was also made with regard to the provision of an essential package of care for people affected by morbidity associated with lymphatic filariasis. To guide these efforts, a WHO online course was released in 2024, entitled *Lymphatic filariasis: morbidity management and disability prevention*, which is available from the WHO Academy (62). In 2023, 6873 more

people with lymphoedema and 25 886 more men with hydrocoele were identified in 12 countries, while eight countries reported providing care for 5303 people with lymphoedema and for 7380 hydrocele surgeries.

Further information is available in the Weekly Epidemiological Record (63) and WHO's Global Health Observatory (64).

### WHO target, milestone and achievement

| Indicator                                                                 | Target (2030) | Milestone (2023) | Achieved (2023)      | Achieved (2024)      |
|---------------------------------------------------------------------------|---------------|------------------|----------------------|----------------------|
| Number of countries validated for elimination as a public health problem  | 58/72 (81%)   | 23/72 (32%)      | 19/72% (26%)         | 21/72 (29%)          |
| Indicator                                                                 | Target (2030) | Milestone (2023) | Achieved (2018–2022) | Achieved (2020–2024) |
| Number of countries implementing post-MDA or post-validation surveillance | 72/72 (100%)  | 37/72 (51%)      | 29/72 (40%)          | 32/72 (44%)          |
| Population requiring MDA                                                  | 0             | 330 million      | 794 million          | 657 million          |

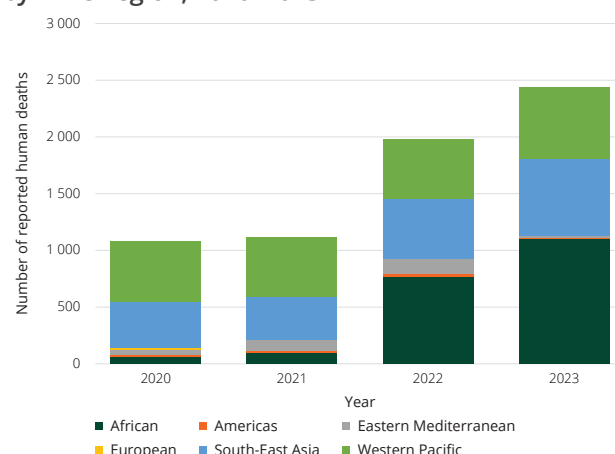
## Rabies



Data collection on rabies remains extremely weak. In 2023, 2439 human deaths due to rabies were reported to WHO, an increase compared to previous years: 1980 in 2022, 1117 in 2021 and 1086 in 2020 (Fig. 2.27). In 2023, 72 countries submitted data, of which 36 reported at least one death while 36 reported zero deaths. These fluctuations likely reflect inconsistencies in reporting, particularly from high-burden countries, rather than actual changes in disease burden. In comparison, 82 countries reported in 2022 (37 with deaths and 45 with zero deaths), and 96 countries in 2021 (32 with deaths and 64 with zero deaths).

In addition to mortality data, animal bite surveillance provides critical evidence of exposure risks. For example, South Sudan reported over 5000 human animal bites in 2023, with 53 confirmed rabies deaths. However,

**Fig. 2.27. Number of reported human rabies deaths by WHO region, 2020–2023**



Data source: Health ministries

bite data remains limited and inconsistently reported across countries, hindering efforts to fully evaluate rabies exposure and the corresponding need for PEP (i.e. wound washing, vaccination and provision of immunoglobulins). In some instances, human animal bites are mistakenly reported as human rabies cases, further complicating data accuracy and interpretation.

In 2023, the African Region accounted for the largest share of reported human rabies deaths, with 1100 deaths representing 45.1% of the global total. This was followed by the South-East Asia Region with 674 deaths (27.6%), the Western Pacific Region with 632 deaths (25.9%), the Eastern Mediterranean Region with 21 deaths (0.9%), the Region of the Americas with 10 deaths (0.4%) and the European Region with two deaths (0.08%). These figures highlight the disproportionate burden of rabies in low- and middle-income countries, particularly in Africa and parts of Asia, underscoring the urgent need for strengthened surveillance, prevention, and access to PEP.

Despite the increase in human rabies deaths recorded in 2022 and 2023, these figures likely remain a significant underestimation due to persistent challenges in surveillance, diagnosis, and reporting. In some settings—such as the African Region—it is estimated that for every documented human rabies death, 10 to 100 cases may go undetected (65). According to the most recent estimates, the global number of human deaths from dog-mediated rabies is approximately 59 000 per year (66,67).

Rabies remains a major public health concern in at least 150 countries, including most of Africa and Asia and parts of South America. Dogs are the primary source of rabies transmission to humans, responsible for up to 99% of cases.

Ending human deaths from dog-mediated rabies by 2030 (“Zero by 30”) is the goal of a global strategy based on a One Health approach integrating the health of humans, animals, plants and the environment that was adopted in 2015 by WHO, the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (WOAH) and the Global Alliance for Rabies Control (GARC) (68). In addition, in 2023 the Pan American Health Organization (PAHO) approved a *Regional plan for the elimination of canine rabies in the Americas 2024–2030* (69).

As of December 2024, globally, 25 countries had developed a national strategic plan for rabies, generally reflecting the vision of global and regional strategies and frameworks. Nevertheless, effectively tackling rabies remains a challenge, especially in resource-poor and remote communities. Contributing factors include inadequate coverage of dog vaccination, poor public awareness about rabies prevention and first aid, weak disease surveillance and lack of access to rabies PEP for those suspected to have been exposed.

Following the inclusion of human rabies vaccine for PEP in their vaccine investment strategy 2021–2025, in June 2024, Gavi, the Vaccine Alliance, issued detailed guidance on the application process to receive the vaccine free of charge; the process is open to all Gavi-eligible countries. As of December 2024, five countries had successfully submitted an application. Partners in the animal health sector are coordinating their dog vaccination campaigns as much as possible in the same areas as those where PEP is being rolled out.

To sustain momentum and ensure effective One Health collaboration to accelerate rabies elimination, a bi-regional Tripartite Rabies Meeting took place in Bangkok, Thailand (16–18 July 2024). The event was jointly convened by the WHO Regional Office for South-East Asia and the WHO Regional Office for the Western Pacific, the FAO Regional Office for Asia and the Pacific, and the WOAH Regional Office for Asia and the Pacific. The meeting concluded with specific recommendations for Member States, the Tripartite and partners to collectively achieve the global goal of Zero by 30, including through strengthening rabies laboratory capacity.

As of December 2024, Mexico was the only country validated by WHO for having eliminated rabies as a public health problem, defined as the absence of human deaths from dog-mediated rabies for at least 24 consecutive months in a country that is operating and continues to maintain adequate surveillance for rabies and demonstrates an effective rabies control programme in human and animal populations.

Further information is available in the Weekly Epidemiological Record (66,70) and WHO’s Global Health Observatory (71).

WHO target, milestone and achievement

| Indicator                                                                               | Target (2030) | Milestone (2023) | Achieved (2022) | Achieved (2023) |
|-----------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries having achieved zero human deaths from rabies <sup>a</sup>          | 155/169       | 89/169           | 41/169 (20.1%)  | 38/169 (22.5%)  |
| Indicator                                                                               | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
| Number of countries having reduced mortality due to dog-transmitted human rabies by 50% | 169/169       | 134/169          | NA              | NA              |

## WHO target, milestone and achievement

| Indicator                                                                              | Target (2030) | Milestone (2023) | Achieved (2022) | Achieved (2023) |
|----------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries having reached 70% vaccination coverage of dogs in high-risk areas | 154/169       | 96/169           | NA              | NA              |

NA: information not available.

<sup>a</sup> Number of human deaths attributable to dog-transmitted rabies.

## Schistosomiasis

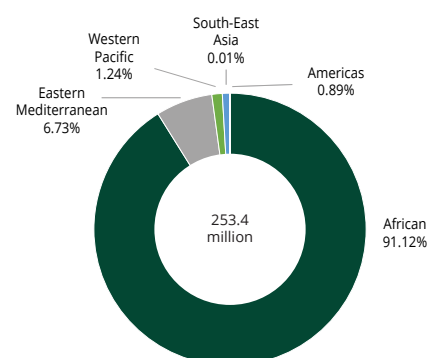


Overall, 253.4 million people in 51 countries required preventive chemotherapy for schistosomiasis in 2023, representing a decrease of 11.3 million people from 2022 (264.7 million). Most people requiring treatment for schistosomiasis lived in the African Region (91.1%), followed by the Eastern Mediterranean (6.7%), Western Pacific (1.2%), Americas (0.9%) and South-East Asia (0.01%) regions. Of the 253.4 million, 135.5 million were school-aged children (5–14 years) and 117.9 million were adults (aged ≥ 15 years) (Fig. 2.28).

The decrease in the number of people requiring preventive chemotherapy with praziquantel observed between 2022 and 2023 reflects the initiation of sub-district level mapping, which usually leads to revised, reduced estimates of the number of people included in the treatment target. Changes observed were mainly attributable to reassessment of the epidemiological situation of schistosomiasis in countries such as Uganda (–8.2 million), Niger (–5.2 million), Ghana (–3.8 million), Mozambique (–2.3 million), Rwanda (–0.6 million) and Guinea (–0.4 million). However, in many other countries, including several high-burden countries such as the Democratic Republic of the Congo, Ethiopia, Madagascar, Nigeria and the United Republic of Tanzania, such epidemiological reassessments led to an increase of this indicator at national level. Also, in 2023, Indonesia was added to the list of countries requiring this intervention, as national health authorities decided to shift back from selective treatment to mass treatment.

In 2023, the global number of people who were administered praziquantel was 90.7 million (in 34 countries), down from 92.9 million (in 36 countries) in the previous year. In spite of this decrease, the treatment coverage increased from 35.1% to 35.8% owing to the reduced size of the population requiring treatment, as detailed above. The coverage achieved in 2023 is the highest since 2020, showing a gradual recovery from COVID-19 disruptions, although it is still below pre-COVID-19 levels (e.g. 44.9% in 2019) (Fig. 2.29). The treatment coverage was markedly higher among school-aged children (56.5%) than adults (12%), reflecting the wider access to praziquantel enjoyed by the former age-group. In fact, the number of school-aged children treated in 2023 was 76.6 million (up from 70 million

**Fig. 2.28. Number of people requiring preventive chemotherapy for schistosomiasis by WHO region, 2023**



Data source: WHO/Global Health Observatory

in 2022), and in adults it was 14.2 million (down from 22.9 million); this decrease is mainly due to absence of adult treatment in 2023 in some high-burden countries where this intervention had been implemented in the past (e.g. Ethiopia, Mozambique, Sudan, Zimbabwe). Smaller numbers of preschool-aged children (1–4 years) were also treated in the Democratic Republic of the Congo (627 008) and in the United Republic of Tanzania (Zanzibar) (114 852).

In 2023, 30 902 new confirmed cases of intestinal schistosomiasis from 15 countries and 194 353 new confirmed cases of urogenital schistosomiasis from 20 countries were reported by health facilities.

As of December 2024, 18 formerly endemic countries, territories and areas had been reporting zero autochthonous cases for several years in a row and claimed to have interrupted transmission of *Schistosoma* spp.; countries in this group include, for example, the Islamic Republic of Iran, Morocco, Seychelles, Tunisia and Türkiye. Nevertheless, neither formal criteria and indicators to assess interruption of transmission have been defined by WHO, nor an official verification process has yet been established: as of end 2024, only one country (Japan) is generally considered to have provided conclusive evidence in this regard.

Similarly, a larger number of countries and territories have informed WHO of their claim of having achieved

Fig. 2.29. Number of people requiring treatment for schistosomiasis and coverage achieved, 2010–2023



Data source: WHO/Global Health Observatory

elimination of schistosomiasis as a public health problem; these include, for example, Cambodia and Lao People’s Democratic Republic in the Western Pacific Region; Indonesia<sup>1</sup> in the South-East Asia Region; Antigua and Barbuda, Dominican Republic, Guadeloupe, Martinique, Montserrat, Porto Rico, Saint Lucia, Saint Kitts and Nevis, Saint Martin and Suriname in the Region of the Americas; Egypt, Oman and Saudi Arabia in the Eastern Mediterranean Region; and Algeria,

Burundi, Rwanda and Zanzibar in the African Region. Nevertheless, in the absence of a formal process for acknowledging the achievement of this road map-endorsed target, the number of countries validated by WHO remains zero. Action is currently being taken to define criteria and establish the mentioned process.

Further information is available in the Weekly Epidemiological Record (72) and WHO’s Global Health Observatory (73).

WHO target, milestone and achievement

| Indicator                                                                                                                                                     | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries validated for elimination as a public health problem (currently defined as < 1% proportion of heavy intensity schistosomiasis infections) | 78/78 (100%)  | 49/78 (63%)      | 0               | 0               |
| Number of countries where absence of infection in humans has been achieved                                                                                    | 25/78 (32%)   | 10/78 13%)       | 1/78 1%)        | 1/78 (1%)       |

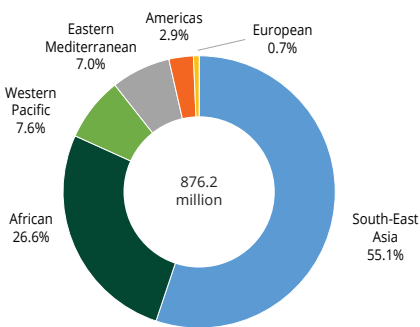
Soil-transmitted helminthiases



In 2023, the total number of children aged 1–14 years requiring preventive chemotherapy for soil-transmitted helminthiases was 876.2 million in 86 countries, equivalent to a 19.8 million reduction from 2022 (896 million in 87 countries). The reduction is largely due to the reclassification of Mexico as no longer requiring this intervention on the basis of the most recent data on access to improved sanitation.

The largest share of the population requiring preventive chemotherapy for soil-transmitted helminthiases was living in the South-East Asia Region (55.1%), followed by the African (26.6%), Western Pacific (7.6%), Eastern Mediterranean (7%), Americas (2.9%) and European (0.7%) regions (Fig. 2.30). Of the 876.2 million

Fig. 2.30. Number of people requiring preventive chemotherapy for soil-transmitted helminthiases by WHO region, 2023



Data source: WHO/Global Health Observatory

<sup>1</sup> In accordance with resolution WHA78.25 (2025), Indonesia was reassigned to the WHO Western Pacific Region as of 27 May 2025.

people, 623.1 million (71.1%) were school-aged children (5–14 years) and 253.1 million (28.9%) were preschool-aged children (1–4 years).

With 333.2 million school-aged and preschool-aged children requiring preventive chemotherapy for soil-transmitted helminthiasis, India alone accounted for 38% of the global share of the population requiring this intervention.

In 2023, the global number of school-aged and preschool-aged children who received preventive chemotherapy with albendazole or mebendazole was 457.3 million in a total of 53 countries, of whom 359.4 million were school-aged children (in 53 countries) and 97.9 million were preschool-aged children (in 32 countries). Overall, the number of people treated decreased between 2022, when the number was 518.4 million in 54 countries, and 2023; the coverage decreased correspondingly, from 57.9% to 52.2%. In 2023, the coverage was 57.7% among school-aged children and 38.7% among preschool-aged children. The 2022–2023 reduction can be at least partially explained by the fact that some endemic countries (e.g. Ethiopia, India, Uganda and the United Republic of Tanzania) have been conducting impact assessment surveys, which led to a decrease in the frequency of preventive chemotherapy in some areas (e.g. treatment every 2 years), in line with the new epidemiological endemicity status. Fig. 2.31 shows the number of school-aged and preschool-aged children who received preventive chemotherapy with albendazole or mebendazole in 2010–2023, and the related coverage.

In addition, in 2023, 6.2 million and 111.8 million women of reproductive age were treated during

deworming campaigns for soil-transmitted helminthiasis and through MDA interventions for lymphatic filariasis, respectively.

As of December 2024, five countries (Burkina Faso, Ghana, Mali, Niger and Sudan) have been classified as no longer requiring preventive chemotherapy and have stopped this intervention; the decision was based on the reduced national prevalence of soil-transmitted helminthiasis to below 2% derived from impact assessment surveys. A large number of countries has also been progressively removed from the list of those requiring preventive chemotherapy following the analysis of data on access to improved sanitation, based on a formal process agreed by WHO; in 2023 this was the case for Mexico. WHO is establishing the process to validate countries for elimination of soil-transmitted helminthiasis as a public health problem: as of December 2024, the number of acknowledged countries remains zero.

With regard to strongyloidiasis, among the 107 estimated endemic countries, 50 have been implementing MDA with ivermectin for lymphatic filariasis and/or onchocerciasis for several years. However, since information on the geographical distribution of strongyloidiasis within such countries is not available, it is not possible to ascertain if all endemic areas have been treated.

In June 2024, the first *WHO guideline on preventive chemotherapy for public health control of strongyloidiasis* was published (74). The guideline recommends annual MDA with single-dose ivermectin (200 µg/kg) in people aged 5 years and older, in settings where the prevalence of *S. stercoralis* infection among school-aged children is

**Fig. 2.31. Number of people requiring treatment for soil-transmitted helminthiasis and coverage achieved, 2010–2023**



Data source: WHO/Global Health Observatory

≥ 5%. Additional details outlined in the guideline include the recommended implementation unit (district), the frequency of treatment (annual) and the minimum duration of the programme (5 years). WHO encourages countries and partners to estimate the burden of strongyloidiasis, develop appropriate diagnostics

and support scaling up of preventive chemotherapy programmes for strongyloidiasis.

Further information is available in the Weekly Epidemiological Record (72) and WHO's Global Health Observatory (75).

### WHO target, milestone and achievement

| Indicator                                                                                                                                                                                                                                                                                                   | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries validated for elimination as a public health problem (defined as < 2% proportion of soil-transmitted helminth infections of moderate and heavy intensity due to <i>Ascaris lumbricoides</i> , <i>Trichuris trichiura</i> , <i>Necator americanus</i> and <i>Ancylostoma duodenale</i> ) | 96/101 (96%)  | 60/101 (60%)     | 0               | 0               |
| Number of countries including ivermectin in preventive chemotherapy in all areas endemic for <i>S. stercoralis</i>                                                                                                                                                                                          | 96/101 (96%)  | 10/101 (10%)     | NA              | NA              |

NA: information not available.

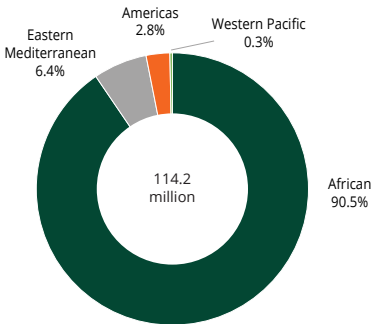
### Trachoma



In 2023, an estimated 114.2 million people in 28 countries lived in areas where the prevalence of trachomatous inflammation—follicular (TF) in children aged 1–9 years was ≥ 5%, thus requiring antibiotic MDA, interventions to improve facial cleanliness and environmental improvement for trachoma elimination (A, F and E of the SAFE strategy) (Fig. 2.32). This figure is in line with the declining trend observed over the past few years; the equivalent estimates for 2022 and 2021 were 132 million (in 31 countries) and 146 million (in 33 countries). Some 90.5% of these people lived in Africa, 6.4% in the Eastern Mediterranean, 2.8% in the Americas and 0.3% in the Western Pacific. An additional nine countries were thought to require interventions, despite lack of actionable epidemiological data, thus bringing to 37 the number of countries where trachoma was still a public health problem. The main factors leading to a 2022–2023 reduction in the number of people requiring A, F and E were a reassessment of the epidemiological situation of trachoma in Brazil, which led to a decrease in the number of people requiring these interventions from 5.2 million in 2022 to 0 in 2023, and a 4.8-million decrease in Ethiopia, the country with the highest burden globally. However, epidemiological surveys in the second highest-burden country (the Democratic Republic of the Congo) led to a 1.4 million increase in the number of people requiring A, F and E in that country.

The number of people who were administered antibiotics for trachoma further decreased in 2023 (33 million in 22 countries) compared with 2022 (36 million in 22 countries), down from the 65 million recorded in 2021 and the 95 million recorded in 2019, the last year before the COVID-19 pandemic and its associated disruptions. Nevertheless, the coverage increased from 27.4% to

Fig. 2.32. Number of people requiring antibiotic treatment for trachoma by WHO region, 2023



Data source: WHO/Global Health Observatory

28.8% from 2022 to 2023 due to the decrease in the number of people requiring this intervention (Fig. 2.33). Approximately 65% of the people treated in 2023 lived in Ethiopia, the country which alone hosts 55% of the global population requiring this intervention.

The estimated global number of people suffering from trachomatous trichiasis, the late, blinding stage of trachoma, was 1.5 million on 15 April 2024, 27 000 fewer than on 25 April 2023. In 2023, 130 746 people were managed for TT worldwide in 38 countries, 75% of whom in Ethiopia.

As of December 2024, 21 countries had been validated for eliminating trachoma as a public health problem, including three countries in 2024 (India, Pakistan and Viet Nam).

Further information is available in the Weekly Epidemiological Record (76) and WHO's Global Health Observatory (77).

**Fig. 2.33. Number of people requiring antibiotic treatment for trachoma and coverage achieved, 2010–2023**



Data source: WHO/Global Health Observatory

### WHO target, milestone and achievement

| Indicator                                                                   | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|-----------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries validated for elimination as a public health problem    | 66/66 (100%)  | 28/66 (42%)      | 18/66 (27%)     | 21/66 (32%)     |
| Number of people at risk requiring A, F and E of SAFE                       | ND            | ND               | 115 671 329*    | 103 243 271°    |
| Number of people requiring management of trachomatous trichiasis; S of SAFE | ND            | ND               | 1.5 million*    | 1.5 million°    |

ND: not defined; SAFE: Surgery, Antibiotics, Facial cleanliness and Environmental improvement.

\* As of 25 April 2023; ° As of 15 April 2024.

## 2.1.3.4 Diseases targeted for control

### Buruli ulcer



As of end 2023, globally:

- 16 countries, areas and territories were classified by WHO as endemic for Buruli ulcer: Benin, Cameroon, Central African Republic, Congo, Côte d'Ivoire, the Democratic Republic of the Congo, Gabon, Ghana, Liberia, Nigeria, Togo and South Sudan in the African Region; French Guiana in the Region of the Americas; and Australia, Japan and Papua New Guinea in the Western Pacific Region.
- 18 countries, territories and areas were classified by WHO as previously endemic, with uncertainty about the current status.

In 2023, 1961 suspected cases were reported to WHO from 13 countries: Nigeria (482 cases), Australia (376), the Democratic Republic of the Congo (332), Côte d'Ivoire (207), Benin (146), Cameroon (133), Congo (83), Ghana

(81), the Central African Republic (77), Gabon (24), Papua New Guinea (9), Togo (8), and Japan (3). Liberia and Sierra Leone submitted preliminary reports; data are currently under validation.

Of these 1961 suspected cases, 861 (43.9%) were laboratory-confirmed, as follows: Nigeria (0/482), Australia (376/376), the Democratic Republic of the Congo (74/332), Côte d'Ivoire (153/207), Benin (116/146), Cameroon (35/133), Congo (15/83), Ghana (12/81), the Central African Republic (54/77), Gabon (17/24), Togo (6/8) and Japan (3/3). Of the 861 laboratory-confirmed cases, 399 (46.3%) completed a full course of antibiotic treatment, and 175 (20.3%) were classified as Category III (late stage) at diagnosis.

As a comparison, in 2022, 2119 suspected, clinically-diagnosed cases had been reported from 11 countries, of which 764 (36.1%) were laboratory-confirmed.

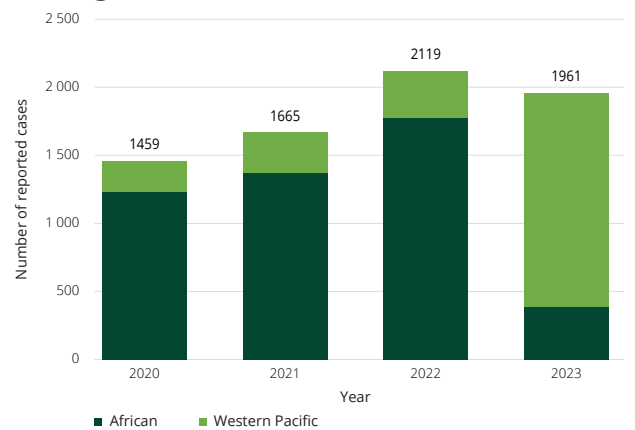
Among the laboratory-confirmed cases, 400 (52.4%) had completed a full course of antibiotic treatment, and 143 (18.7%) had been classified as Category III.

Fig. 2.34 shows the number of Buruli ulcer cases reported to WHO by region in 2020–2023.

In the course of 2023, capacities of health workers on diagnosis of Buruli ulcer, as well as availability of diagnostic tools, were strengthened globally. This resulted in an improved proportion of laboratory-confirmed cases, as compared with 2022. Nevertheless, in 2023, the proportion of confirmed cases detected at a late stage (and therefore classified as Category III) and the proportion of confirmed cases who completed a full course of antibiotic treatment were worse than in 2022, showing limited progress in surveillance as well as in compliance with treatment protocols.

In 2024, active case finding for Buruli ulcer was carried out as a part of integrated skin NTD screenings. In line with the road map and the skin NTD framework (18), integration was also adopted by the laboratory network

Fig. 2.34. Number of reported Buruli ulcer cases by WHO region, 2020–2023



Data source: Health ministries

which initiated its transition from BU LABNET to the Skin NTD LABNET towards the end of 2023 (36,37).

Further information is available in the Weekly Epidemiological Record (38) and WHO’s Global Health Observatory (78).

### WHO target, milestone and achievement

| Indicator                                                                              | Target (2030) | Milestone (2023) | Achieved (2022) | Achieved (2023) |
|----------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Proportion of cases in category III (late stage) at diagnosis                          | < 10%         | < 22%            | 18.7%           | 20.3%           |
| Proportion of laboratory-confirmed cases                                               | > 95%         | > 85%            | 36.1%           | 43.9%           |
| Proportion of confirmed cases who have completed a full course of antibiotic treatment | > 98%         | > 95%            | 52.4%           | 46.3%           |

## Dengue and chikungunya



### Dengue

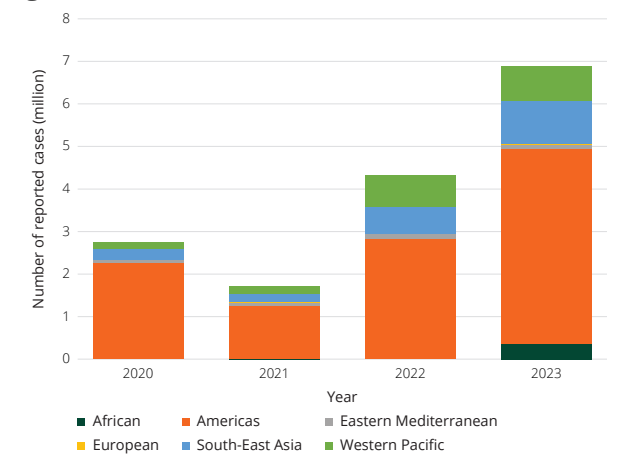
Dengue is one of the NTDs most affected by the impact of climate change on vector-borne diseases. Factors associated with the growing risk of spread of the dengue epidemic include increasing global temperatures, rainfall and humidity, all leading to an expansion of the distribution of the vectors (mainly *Aedes aegypti* and *Aedes albopictus* mosquitoes), especially to previously dengue-naïve countries.

WHO estimates that about half of the world’s population is now at risk of dengue, with an estimated 100–400 million infections occurring each year. WHO placed dengue as a grade 3 emergency in 2024 (the Organization’s highest level of emergency).

The number of cases of dengue reported to WHO was 6 867 850 in 2023, a significant increase from 2022, when 4 330 378 were reported. This is certainly an underestimate of the true incidence, due to the fact that most dengue infections are asymptomatic or produce

only mild illness, and are usually self-managed. Fig. 2.35 shows the number of dengue cases reported to WHO in 2020–2023.

Fig. 2.35. Number of reported dengue cases by WHO region, 2020–2023



Data source: Health ministries

Nevertheless, policies and practices related to case management of dengue cases have improved, thanks to systematic review of country-level programmes and capacities for surveillance and control, strengthened preparedness and response, and updated guidance and training activities. Both the reported case-fatality rate (0.11%) and the number of countries able to detect and respond to dengue outbreaks (107) have progressively improved and exceeded the milestones set in the road map (0.50% and 26, respectively). Nevertheless, because of the growing number of cases, dengue is one of the leading drivers of the increase in the number of deaths due to vector-borne disease (see cross-cutting indicator 1).

Chikungunya

As of December 2024, 80 countries with transmission of chikungunya virus had been identified, on the basis of information collected through different sources. Nevertheless, the number of countries reporting regularly to WHO is lower.

Based on the information received from health ministries in 2024, eight countries (Burkina Faso, Congo, Eritrea, Gabon, the Lao People's Democratic Republic, Malaysia, the Philippines and Sudan) reported being endemic for chikungunya and five countries (Ethiopia, French Polynesia, Kenya, Madagascar, Qatar, Senegal and Singapore) reported sporadic presence of chikungunya. Additionally, three countries (Angola, Saudi Arabia and Yemen) reported to be suspected endemic.

Among the countries where transmission is ongoing, is sporadically present or is suspected to occur, nine countries (Macao SAR (China), French Polynesia, the Lao People's Democratic Republic, Malaysia, Mauritius, Philippines, Qatar, Singapore and Yemen) reported to be either partially mapped or to having completed mapping for chikungunya; one country (Senegal) reported not to require mapping. Three countries (Cabo Verde, Macao SAR (China) and Mauritius) reported never being endemic for chikungunya. Afghanistan, Burundi, Guinea,

Progress is also being made on prevention: on 9 May 2024, a new vaccine for dengue, denominated Qdenga (TAK-003), manufactured by Takeda Pharmaceutical Company Limited, received WHO prequalification, the second dengue vaccine to complete this process after Dengvaxia (manufactured by Sanofi Pasteur and prequalified by WHO in 2020), whose production has recently been discontinued (79). Qdenga (TAK-003), a live-attenuated vaccine, contains weakened versions of the four serotypes of the virus that cause dengue. Its use is recommended in children aged 6–16 years living in settings with high dengue burden and transmission intensity.

Mozambique and Uganda reported their endemicity status as “unknown”.

In 2023, 518 deaths whose primary cause was chikungunya were reported to WHO from Angola, Brazil and Paraguay. In the same year, 415 267 suspected cases (of which 243 872 were confirmed) were reported to WHO from 29 countries.

By the end of 2024, 25 countries had adopted strategies for case management of chikungunya, and capacities of health workers had been strengthened in this regard. Guidelines and online courses on clinical management of chikungunya are under development.

Two chikungunya vaccines are commercially available in various countries: a live-attenuated vaccine (IXCHIQ) and a virus-like particle vaccine (VIMKUNYA).

Integrated case management of arboviral infections

As of end 2024, globally, over 70 countries were implementing the integrated case management of arboviral infections (including 20 in the African Region); as such, they were capable of detecting and managing people affected by the three main viruses transmitted by *Aedes aegypti*, namely chikungunya, dengue and Zika.

Dengue  
WHO target, milestone and achievement

| Indicator                                                                       | Target (2030) | Milestone (2023) | Achieved (2022) | Achieved (2023) |
|---------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Case-fatality rate due to dengue                                                | 0%            | 0.50%            | 0.10%           | 0.11%           |
| To reduce the burden of the disease and its incidence by 25% (2020 as baseline) | 2.35 million  | 3 million        | 4 330 378       | 6 867 850       |
|                                                                                 |               |                  | Achieved (2023) | Achieved (2024) |
| Number of countries able to detect and respond to dengue outbreaks              | 96/128 (75%)  | 26/128 (20%)     | 65/128 (51%)    | 107/135 (79%)   |

## Chikungunya

### WHO target, milestone and achievement

| Indicator                                                                                                                                           | Target (2030)    | Milestone (2023) | Achieved (2023)       | Achieved (2024)        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|-----------------------|------------------------|
| Vaccine development for one or more vaccine candidates                                                                                              | Licensed vaccine | ND               | One vaccine available | Two vaccines available |
| Number of countries identified and mapped for chikungunya                                                                                           | 110/110 (100%)   | 55/110 (50%)     | 55/110 (50%)          | 80/110 (73%)           |
| Develop optimized and prioritized integrated strategies for case management and estimate the potential public health benefits by 2025, in countries | 40*              | 20               | 20                    | 25                     |

ND: not defined.

\* To be achieved by 2025.

## Echinococcosis (alveolar and cystic)



In 2023, a total of 8369 cases of echinococcosis were reported from 31 countries: 6152 cases from four countries (Argentina, Chile, Peru and Uruguay) in the Region of the Americas; 1238 cases from three countries (the Islamic Republic of Iran, Jordan and Libya) in the Eastern Mediterranean Region; and 979 cases from 24 countries in the European Region. No cases were reported from the African, South-East Asia and Western Pacific regions. Five countries (Estonia, Finland, Iceland, Ireland and Malta) reported zero cases, bringing to 36 the total number of reporting countries. Considering the global distribution of echinococcosis, major underreporting is still affecting data on this disease.

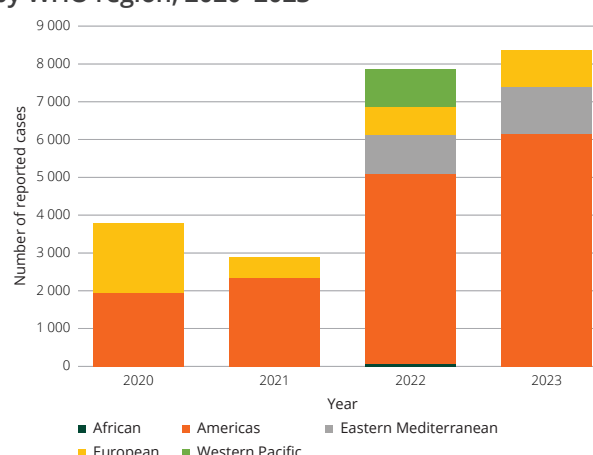
In 2022, 7863 cases were reported from 35 countries: 63 cases from two countries in the African Region; 5044 cases from four countries in the Region of the Americas; 1017 cases from four countries in the Eastern Mediterranean Region; 748 cases from 24 countries in the European Region; and 991 cases from one country in the Western Pacific Region. Three countries reported zero cases, bringing to 38 the total number of countries reporting.

Fig. 2.36 shows the number of cases of echinococcosis reported to WHO in 2020–2023.

As of 2024, countries implementing intensified control of cystic echinococcosis in hyperendemic areas included Argentina, China, Italy, Kyrgyzstan and Uruguay. In Uruguay, important advances have been made towards elimination of echinococcosis as a public health problem (defined as zero incidence in people aged less than 15 years old) (80). Pilot projects continue to be implemented in Chile, Peru and Tunisia.

Cystic echinococcosis is part of PAHO's Elimination Initiative (81), and epidemiological reports on this disease are published at biennial intervals by PANAFTOSA.

**Fig. 2.36. Number of reported echinococcosis cases by WHO region, 2020–2023**



Data source: Health ministries

Conversely, data from Africa, Asia and Eastern Europe are limited; many endemic countries still need to collect baseline data to ascertain the magnitude of the burden of disease. According to GHE estimates (3), the burden of echinococcosis (in DALYs) increased in 2019–2021, after a small reduction had been registered between 2015 and 2019; overall, DALYs increased by 11.8% between 2015 and 2021, and an increase in deaths was also observed over the same period. Nevertheless, GBD estimates (4) show a decrease in DALYs of 12.7% on 2015–2021; such inconsistencies highlight the need to refine methodologies and calculations.

During 2024, Kyrgyzstan received 435 000 albendazole tablets for case management of echinococcosis, donated by GSK through WHO.

An online course on cystic echinococcosis is available on the WHO Academy learning platform (62).

### WHO target, milestone and achievement

| Indicator                                                                                   | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|---------------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries with intensified control of cystic echinococcosis in hyperendemic areas | 17            | 4                | 4               | 5               |

## Foodborne trematodiasis



Four main conditions are included in this group: fascioliasis, clonorchiasis, opisthorchiasis and paragonimiasis. As of 2024, intensified control in areas hyperendemic for foodborne trematodiasis was being implemented in three countries, namely in the Plurinational State of Bolivia and Peru, where preventive chemotherapy interventions are implemented with triclabendazole against fascioliasis; and in Thailand, where praziquantel is used against opisthorchiasis.

Novartis has been donating triclabendazole to WHO since 2005 for treatment of human fascioliasis (more recently, small quantities have been donated to requesting countries for the treatment of human paragonimiasis too). During the past decade, almost 4 million tablets have been donated to 32 countries. Bayer AG has been donating praziquantel for the treatment of clonorchiasis and opisthorchiasis since 2020; in 2024, this medicine was supplied to Cambodia.

Only a few countries (mainly the Plurinational State of Bolivia and Peru) have been requesting donated medicines and implementing a large-scale treatment programme (mass treatment in the Plurinational State of Bolivia and targeted treatment in Peru), while most countries use tablets for individual disease management

(treatment of clinical cases at health facilities), almost always against fascioliasis.

In Peru, 1055 children and adults were treated for fascioliasis in 2023, in different departments across the country. In the Plurinational State of Bolivia, MDA with triclabendazole was implemented in fascioliasis-endemic areas of the Andean altiplano in 2021 and 2023, resulting in the treatment of 171 254 and 216 938 children and adults aged 5–59 years, respectively.

In 2023, the number of people individually diagnosed and treated for fascioliasis was 850 in Egypt, 77 in China and also 77 in Georgia; as such, in total, 1004 cases of fascioliasis were reported to WHO in 2023. It is certain that more cases are detected in other countries; however reporting to WHO remains very weak, especially when medicines are sourced locally and not donated through WHO.

In 2024, the English and Spanish versions of *Operational guidelines for the elimination of human fascioliasis as a public health problem in the Americas* were released by PAHO (82).

In 2023, no cases of clonorchiasis, opisthorchiasis and paragonimiasis were reported to WHO.

### WHO target, milestone and achievement

| Indicator                                                          | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|--------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries with intensified control in hyperendemic areas | 11/92 (12%)   | 3/92 (3%)        | 3/92 (3%)       | 3/92 (3%)       |

## Cutaneous leishmaniasis



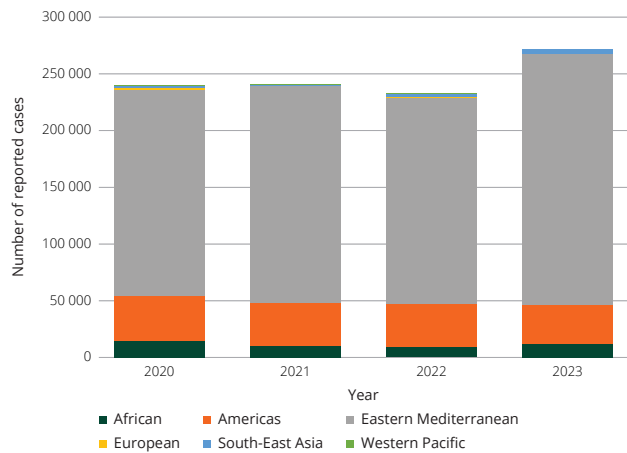
Based on 2023 data, 90 countries are considered endemic for cutaneous leishmaniasis and three have previously reported cases.

In 2023, the number of cases of cutaneous leishmaniasis reported to WHO was 272 169, of which 271 776 were autochthonous and 393 imported. Reporting countries were 55 (in 2022, a total of 232 690 cases had been reported from 49 countries). Most cases occurred in the Eastern Mediterranean Region (220 521, 81%), followed by the Americas (35 201, 12.9%), African (11 777, 4.3%), South-East Asia (4361, 1.6%) and European (309, 0.1%) regions; no cases were reported from the Western Pacific Region, although underreporting is known to occur in that region (Fig. 2.37).

The countries reporting the largest number of cases were Afghanistan, Pakistan, the Syrian Arab Republic and Brazil, all exceeding 10 000 cases each and accounting for 77.7% of the global burden. Of these four countries, three belong to the most prominent eco-epidemiological hotspot for cutaneous leishmaniasis, the one including northern Africa, the Middle East and western Asia, while Brazil belongs to the one including central and South America.

Globally, the number of cases of cutaneous leishmaniasis has progressively increased over the past decade, from 194 864 in 2014 to 281 778 in 2019, with downwards fluctuations during the years of the COVID-19 pandemic due to disruptions in health services. This trend is

Fig. 2.37. Number of reported cutaneous leishmaniasis cases by WHO region, 2020–2023



Data source: Health ministries

largely sustained by increasing numbers in the Eastern Mediterranean Region, while the number of cases reported from the Americas, although still substantial, has been decreasing since 2005. The number of cases reported from the African Region has slightly increased over the past few years, and is due mainly to Algeria, which represented 64% of all regional cases in 2023.

Available data, although incomplete, indicate that in 2023 some 51% of the cases occurred in young children aged < 5 years, 19% in children aged 5–14 years, and 30% in adults aged ≥ 15 years; and that 56% of the cases were female.

In 2023, information on treatment options was collected from three high-burden countries in the Eastern

Mediterranean Region (Afghanistan, Iraq and the Syrian Arab Republic). Data show that cryotherapy was used in 9% of cases, intralesional pentavalent antimonials in 75% and intramuscular or systemic pentavalent antimonials in 14%. The type of treatment was not known in the remaining 3%.

Over the past decade, WHO has been investing in the strengthening of mechanisms for collection and reporting of data on cutaneous leishmaniasis, which has resulted in improvements in the frequency and completeness of reporting, especially from high-burden countries. Nevertheless, underreporting is certainly still affecting data quality, notably in the European and Western Pacific regions. In addition, estimating the true incidence of cutaneous leishmaniasis remains challenging, which prevents meaningful reporting against the disease-specific indicator included in the road map.

Nevertheless, in the Region of the Americas, a prediction model estimating the expected incidence of cutaneous leishmaniasis allowed concluding that 10 countries in the region have attained the road map target of detecting and reporting 85% of all cases (Brazil, Colombia, Costa Rica, Ecuador, Honduras, Mexico, Panama, Peru, the Plurinational State of Bolivia and Suriname), while four have attained treating 95% of all reported cases (Argentina, the Bolivarian Republic of Venezuela, Guatemala and Mexico); only one country (Mexico) has attained both targets.

Further information is available in the Weekly Epidemiological Record (60) and WHO's Global Health Observatory (83).

WHO target, milestone and achievement

| Indicator                                                                                                       | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|-----------------------------------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries in which: 85% of all cases are detected and reported and 95% of reported cases are treated. | 87/87 (100%)  | 44/87 (51%)      | NA              | 1/87 (1.1%)     |

NA: information not available.

Mycetoma, chromoblastomycosis and other deep mycoses



In many countries, there are no surveillance and reporting mechanisms for deep fungal infections. As such, information on their geographical distribution, incidence, prevalence and morbidity is scarce, and usually generated by prospective or retrospective surveys.

Since 2023, WHO has been collecting information on mycetoma, chromoblastomycosis, paracoccidioidomycosis and sporotrichosis through the GNARF, but available data are still sparse; certainly, more cases are occurring than are detected, and more cases are detected than reported. Similarly, information on management of cases is extremely scarce.

Mycetoma

Although the endemicity of mycetoma occurs throughout the “mycetoma belt”, as of end 2023, only five countries

(Eritrea, Guinea, Mauritania, South Sudan and Sudan) reported being endemic for mycetoma. In addition,

11 countries (Central African Republic, Ethiopia, Gambia, Kenya, Madagascar, Mali, Namibia, Niger, Papua New Guinea, Somalia and Uganda) reported being suspected endemic; five countries (Burkina Faso, Djibouti, Gabon, Senegal and Togo) reported sporadic presence of the disease; and eight countries (Angola, Burundi, Cameroon, the Lao People's Democratic Republic, Nauru, Philippines, the Syrian Arab Republic and Yemen) reported their endemic status as unknown. Several countries which are known to be endemic but have not reported information through the GNARF include the Bolivarian Republic of Venezuela, Chad, India, Mexico and Thailand.

In 2023, 27 cases of actinomycetoma were reported to WHO from two countries (8 cases from Mauritania and 19 cases from Senegal), all of which were originally suspected clinically and then laboratory-confirmed. In addition Eritrea, Guinea and the Lao People's Democratic Republic reported zero cases. In 2022, 278 clinically-suspected cases of actinomycetoma had been reported to WHO from seven countries (6 from Cameroon, 116 from Ethiopia, 3 from Gabon, 49 from Kenya, 12 from Mauritania, 10 from Senegal and 82 from Sudan). All 208 cases reported from Ethiopia, Senegal and Sudan were subsequently laboratory-confirmed; in addition, Eritrea reported zero cases.

In 2023, 12 cases of eumycetoma were reported to WHO from just one country (Senegal), all of which were

originally suspected clinically and then laboratory-confirmed. In addition, Eritrea and the Lao People's Democratic Republic reported zero cases. In 2022, 206 clinically-suspected cases of eumycetoma had been reported to WHO (23 from Senegal and 183 from Sudan), all of which had been subsequently laboratory-confirmed; in addition, Cameroon and Eritrea had reported zero cases.

As of end 2023, nine countries (Gabon, Mauritania, Niger, Senegal, Sierra Leone, South Sudan, Sudan, Togo and Uganda) reported having a national NTD action plan that includes mycetoma, while 14 countries reported not having any such plan. However, only three countries (Mauritania, Senegal and Sudan) had included mycetoma in national control programmes and surveillance systems; in 2022, only two countries (Senegal and Sudan) had done so.

Services for diagnosis and management of mycetoma in Sudan have been severely affected by the ongoing conflict. These disruptions also prevented the compilation and analysis of data on this condition, and consequently the reporting of 2023 data to WHO. Among other facilities, the University of Khartoum's Mycetoma Research Centre, which serves also as the WHO Collaborating Centre on Mycetoma, was critically damaged.

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### *Chromoblastomycosis*

As of end 2023, one country (the Islamic Republic of Iran) reported being endemic for chromoblastomycosis; two countries (the Central African Republic and South Sudan) reported being suspected endemic; three countries (Gabon, Madagascar and Togo) reported sporadic presence of the disease; one country (Gambia) reported never being endemic; and 11 countries (Angola, Benin, Burkina Faso, Burundi, Cabo Verde, Cameroon, Kenya, the Lao People's Democratic Republic, Namibia, Sao Tome and Principe and Nauru) reported unknown status.

In 2023, 110 new clinical cases of chromoblastomycosis were reported to WHO, of which 81 were laboratory-confirmed; three recurrent confirmed cases were also reported, all of which occurred in Madagascar. In 2022, no cases of chromoblastomycosis had been reported to WHO.

Historically, the largest number of cases of chromoblastomycosis has been reported from Central America, the northern part of South America, as well as from the African and Western Pacific regions. Nevertheless, countries such as the Bolivarian Republic of Venezuela, Brazil, Costa Rica and the Dominican Republic in the Americas, and China in the Western Pacific, have not reported cases to WHO in 2022 or 2023.

As of end 2023, only one country (South Sudan) reported having included chromoblastomycosis in its NTD action plan, while 11 countries (Angola, Burundi, Cabo Verde, Cameroon, Central African Republic, Gabon, Madagascar, Mauritania, New Caledonia, South Africa and Togo) reported not having done so. In both 2022 and 2023, three countries (Brazil, China and Madagascar) had included chromoblastomycosis in national control programmes and surveillance systems.

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### *Paracoccidioidomycosis*

As of end 2023, two countries (the Central African Republic and South Sudan) reported being suspected endemic for paracoccidioidomycosis; two countries (Gabon and Gambia) reported being never endemic;

and nine countries (Angola, Burkina Faso, Burundi, Cameroon, the Lao People's Democratic Republic, Madagascar, Namibia, Nauru and Togo) reported unknown status.

In both 2022 and 2023, no cases of paracoccidioidomycosis were reported to WHO.

As of end 2023, only one country (South Sudan) reported having included paracoccidioidomycosis in its NTD action plan, while seven countries (Angola, Burundi,

Cameroon, Central African Republic, Madagascar, South Africa and Togo) reported not having done so. In both 2022 and 2023, only one country (Brazil) had included paracoccidioidomycosis in national control programmes and surveillance systems.

### Sporotrichosis

As of end 2023, two countries (the Central African Republic and South Sudan) reported being suspected endemic for sporotrichosis; two countries (Madagascar and Togo) reported sporadic presence of the disease; one country (Gambia) reported being never endemic; and nine countries (Angola, Burkina Faso, Burundi, Cabo Verde, Cameroon, Gabon, the Lao People's Democratic Republic, Namibia and Nauru) reported unknown status.

No cases of sporotrichosis were reported to WHO for either 2022 or 2023.

As of end 2023, only one country (South Sudan) reported having included sporotrichosis in its NTD action plan, while while 10 countries (Angola, Burundi, Cabo Verde, Cameroon, Central African Republic, Gabon, Madagascar, Mauritania, South Africa and Togo) reported not having done so. In both 2022 and 2023, only one country (Brazil) had included sporotrichosis in national control programmes and surveillance systems.

#### WHO target, milestone and achievement

| Indicator                                                                                                                                                                     | Target (2030) | Milestone (2023) | Achieved (2022) | Achieved (2023) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries in which mycetoma, chromoblastomycosis, sporotrichosis and/or paracoccidioidomycosis are included in national control programmes and surveillance systems | 15/30 (50%)   | 4/30 (13%)       | 5/30 (17%)      | 6/30 (20%)      |

### Noma



Noma is a rapidly progressing, invasive and debilitating oro-facial disease that mainly affects children aged 2–6 years in the most vulnerable and marginalized populations. Although not fully elucidated, its pathogenesis appears to be linked to non-specific polymicrobial organisms of the oral cavity, opportunistically triggered by malnutrition, poor oral hygiene, concomitant infections and other risk factors. Noma is associated with a high case-fatality rate; nevertheless, its progression can be rapidly halted with early detection and treatment.

In December 2023, noma was recognized by WHO as an NTD. Since then, WHO has been facilitating its integration into the road map, including defining targets, indicators and milestones. To better understand the burden and the status of programmatic implementation of disease control activities globally, noma has also been incorporated into the GNARF in 2024.

Through the GNARF, seven countries, all in the African Region, reported on their endemicity status as of 2023: the health authorities of four countries (Burkina Faso, Cameroon, the Democratic Republic of the Congo and Mali) reported that their respective countries are endemic for noma; the health authorities of one country

(Senegal) reported that noma is sporadically present in the country; while those of two countries (Ethiopia and South Sudan) declared that these countries are suspected endemic. Five countries (Burkina Faso, the Democratic Republic of the Congo, Guinea-Bissau, Mali and Senegal) reported a total of 443 new cases, of which 384 were suspected and 59 clinically-confirmed. Of the 59 clinically-confirmed cases, 27 were reported from the Democratic Republic of the Congo, 7 from Guinea-Bissau and 25 from Senegal; 45 (76.3%) were in stage 1 at the time of diagnosis, 9 in stage 2 (15.3%), 4 in stage 3 (6.8%), 1 (1.7%) in stage 4 and 0 in stage 5.

Complementary to the above and based on the number of cases reported to the WHO Regional Office for Africa or included in recent systematic reviews, 32 countries detected noma cases between 2010 and 2023, with Guinea-Bissau, Niger and Nigeria being the top three reporting the highest number of cases during this period. Since noma is often underreported due to limited knowledge and awareness of this condition among affected communities and health workers, as well as misconceptions and weak access to health-care facilities, significant efforts are needed to improve noma surveillance and ensure comprehensive case reporting through the GNARF.

Some qualitative information was also collected through the GNARF; for example, as of 2023, five countries (Benin, Burkina Faso, Guinea-Bissau, Mali and Senegal) reported having integrated noma into either their national NTD action plans, national policies and plans, or in their health sector strategies.

To raise awareness among policy-makers and communities, the WHO Regional Office for Africa has produced communication materials including videos (84,85). In 2024, WHO assisted Benin and Senegal in organizing consultation meetings with various stakeholders, including the NTD and oral health communities, with the aim of promoting an integrated response to noma within the skin NTD framework, and facilitating coordination between oral health and NTD programmes. Additionally, in both 2023 and 2024, Ethiopia trained 304 primary care workers on case-finding and management, and 626 community health extension workers on promoting oral health, as well as on detection and referral of noma cases. Furthermore, in 2024 Ethiopia integrated active case surveillance for

noma with MDA of ivermectin for onchocerciasis, in collaboration with partners such as Hilfsaktion Noma e.V.; during these activities, which reached 1 213 544 individuals, three new cases of noma were identified (86).

Given that the epidemiology, pathogenesis and treatment modalities of noma remain unclear, it is crucial to accelerate high-quality research. In this regard, noma is being included in the WHO NTD R&D blueprint to identify R&D priorities that could lead to significant advances in public health control of noma.

Further information is available in the WHO fact sheet on noma (87).

### WHO target, milestone and achievement

Noma was added to the list of NTDs in December 2023; as such, it is not included in the road map and no targets, indicators and milestones have yet been defined. In the meanwhile, noma is provisionally placed in the group of diseases targeted for control.

## Scabies and other ectoparasitoses



### Scabies

Since 2023, WHO has been collecting information on scabies through the GNARF; nevertheless, despite the fact that this disease is ubiquitous, epidemiological and programmatic information is still fragmentary.

The number of clinically-diagnosed cases reported to WHO for the year 2023 was 131 269, while laboratory-confirmed cases were 5677, bringing to 136 946 the total number of cases. These cases were reported from 25 countries; in 2022, some 453 041 clinically-diagnosed cases and 395 laboratory-confirmed cases of scabies, totalling 453 436, had been reported from 21 countries.

In addition, 28 countries (Angola, Armenia, Bahrain, Burundi, Cameroon, Macao SAR (China), Eswatini, Ethiopia, French Polynesia, Ghana, the Islamic Republic of Iran, Jordan, Kuwait, Liberia, Malaysia, Mali, Mauritius, Namibia, New Caledonia, Philippines, Qatar, Sao Tome and Principe, Saudi Arabia, Senegal, Spain, Sudan, Togo and Vanuatu) reported having incorporated scabies management into the universal health coverage package of care, at least to some extent, as of end 2023. In 2022, such countries were 23. Data on scabies are still affected by underreporting and it is likely that additional countries, notably among those with higher income economies, have included management and control of scabies as part of the health services.

In 2023, three countries (the Islamic Republic of Iran, the Lao People's Democratic Republic and Vanuatu) reported

implementing MDA of ivermectin, resulting in 219 685 people treated; among these, only Vanuatu implemented MDA in all endemic districts. In 2022, Afghanistan and Vanuatu had reported implementing this intervention, although only on portions of their territory, resulting in 102 923 people treated; in the same year, two countries (Fiji and Solomon Islands) had reported implementing MDA of ivermectin in all endemic districts, although no treatment data had been made available to WHO.

Several other countries reported treating patients for scabies through individual disease management (e.g. with topical scabicides, including in response to outbreaks). In 2023, this resulted in 37 029 people treated in nine countries (in 2022, they were 310 108 in seven countries).

In total, countries reported 256 714 people treated for scabies (either through MDA or individual disease management) in 2023, against 413 031 in 2022.

In 2024, the Ministry of Health & Medical Services of the Solomon Islands, with support from the World Scabies Program, completed two rounds of MDA with ivermectin for scabies throughout the entire country; as such, the Solomon Islands became the first country to complete two national rounds of MDA for scabies in the same year.

Further information is available in the WHO fact sheet on scabies (88).

The only other ectoparasitosis for which data are collected through the GNARF is tungiasis (a disease caused by the sand flea *Tunga penetrans*). Information is fragmentary and often inconsistent, and is only available for the years 2022 and 2023.

As of end 2023, eight countries (Cameroon, Congo, Ethiopia, Kenya, Madagascar, Sao Tomé and Príncipe, South Sudan and Uganda) reported being endemic for tungiasis; three countries (Angola, Central African Republic, Gabon) reported being suspected endemic; two countries (Cabo Verde and Mozambique) reported sporadic presence of this disease; 13 countries (Djibouti, Eritrea, French Polynesia, Guam, the Islamic Republic of Iran, Kuwait, the Lao People's Democratic Republic, Libya, Mauritius, Namibia, Saudi Arabia, Spain and Sudan) reported being never endemic; and 12 countries (Burkina Faso, Burundi, Eswatini, Gambia, Jordan, Liberia, Nauru, Senegal, Somalia, Togo, Vanuatu and Yemen) reported unknown status.

In 2023, a total of 269 clinical cases were reported from only two countries (Congo and South Sudan), of which 50 were considered severe; 59 cases had received treatment. In 2022, a total of 6452 clinical cases had been reported from three countries (Eritrea, Mauritania and Mozambique), of which 70 were considered severe; of these, 4265 cases had been treated.

As of end 2023, seven countries (Angola, Congo, Eswatini, Kenya, Madagascar, Mozambique, and Uganda) reported having included tungiasis in their NTD action plans, while 19 countries reported not having done so.

Because of the lack of reporting systems for tungiasis in many countries, cases are still largely detected through surveys conducted in population samples and published in scientific literature; however, this information is not collected systematically nor officially reported to WHO and therefore not included in this report.

Further information is available in the WHO fact sheet on tungiasis (89).

WHO target, milestone and achievement\*

| Indicator                                                                                                   | Target (2030)  | Milestone (2023) | Achieved (2022) | Achieved (2023) |
|-------------------------------------------------------------------------------------------------------------|----------------|------------------|-----------------|-----------------|
| Number of countries having incorporated scabies management in the universal health coverage package of care | 194/194 (100%) | 25/194 (13%)     | 23/194 (11.9%)  | 28/194 (14.4%)  |
| Number of countries using MDA interventions in all endemic districts                                        | 25             | 3                | 2               | 1               |

\* No targets, milestones and indicators for tungiasis are included in the road map.

Snakebite envenoming



Snakebite envenoming represents a critical yet neglected global health issue, disproportionately affecting impoverished, rural populations with limited access to medical infrastructures and services. There are more than 500 species of medically important venomous snakes worldwide. These species are native to 168 countries around the world, and may cause SBE in all countries where they are present (90).

Since the inclusion of snakebite envenoming in the list of NTDs in 2017, the adoption of resolution WHA71.5 in 2018 and the launch of *Snakebite envenoming: a strategy for prevention and control* in 2019 (91), funding for research and development has increased, although funding for policy development or programme implementation remains scarce and is urgently needed. Nevertheless, progress has been registered in some countries, with snake bites being added to the list of notifiable diseases, national treatment guidance being developed or updated, and the potential for local antivenom production being scoped. WHO also

conducted risk-benefit assessments for over 30 South Asian, Middle Eastern and African snake antivenoms, in view of the inclusion of those considered safe and efficacious in the WHO Procurement Catalogue as part of a pooled procurement programme, and oversaw the development of target product profiles for conventional antivenoms for use in sub-Saharan Africa and South Asia (92).

Progress has also continued with improvements in both granularity and extent of data reporting, predominantly in sub-Saharan Africa where a DHIS2 module on snakebite envenoming has been piloted by WHO. Underreporting remains a major problem globally, as well as a systemic barrier to improving outcomes for victims. New WHO tools currently in the pipeline are expected to improve global data collection substantially in terms of quality, spatial coverage and granularity.

In some countries, a very high proportion of snakebite victims consult traditional medicine practitioners; even

when victims present to health facilities for treatment, routine reporting of snakebite is not universal (93–97). In addition, when data are reported, information on snakebites is often aggregated with data for other animal bites (98). Finally, a distinction between “snakebite” and “snakebite envenoming” is rarely made in data collection processes, a fact that hinders both accurate reporting (including through this document) as well as the planning for an effective public health response.

In 2023, data were reported by 21 countries in the African Region, six from the Eastern Mediterranean Region, five from the South-East Asia Region and one from the Western Pacific Region. These 33 countries provided data on 195 021 confirmed or suspected cases of snakebite/snakebite envenoming, including 722 deaths. Most countries submitting data reported “snakebite cases” rather than cases of “snakebite envenoming”. Death reporting was sporadic and no national disability data were reported (Table 2.4).

Improving data collection and reporting of snakebite/snakebite envenoming cases requires a commitment by countries to obtain, collate and share data, as well as substantial resources for coordinated data analysis and interpretation. Clearly, better snakebite data are needed to save lives and limbs (99). Some progress is being made with regard to programmatic aspects of prevention and control: as of end 2023, 26 countries reported through the GNARF having included this condition within national NTD action plans, while 21 reported not having included it. This does not reflect the overall situation, however, as some countries that are known to have good reporting systems in place were not among those providing this information. Particularly in geographical areas where venomous snakes are endemic, there is a strong need for greater collaboration, cooperation and coordination at both national and international levels.

Further information is available in the *Weekly Epidemiological Record* (100,70) and WHO’s Snakebite Information and Data Platform (101).

**Table 2.4. Number of cases of snakebite/snakebite envenoming reported to WHO by country, 2023**

| Country                          | Cases (2023)   | Deaths (2023) |
|----------------------------------|----------------|---------------|
| Angola                           | 307            | NR            |
| Bangladesh                       | 16 521         | 91            |
| Benin                            | 1 336          | 6             |
| Bhutan                           | 184            | 0             |
| Burkina Faso                     | 14 749         | NR            |
| Burundi                          | 1 660          | NR            |
| Cameroon                         | 9 417          | 131           |
| Chad                             | 2 847          | 26            |
| Eswatini                         | 501            | 2             |
| Ethiopia                         | 7              | NR            |
| Gabon                            | 117            | NR            |
| Gambia                           | 201            | NR            |
| Ghana                            | 10 545         | NR            |
| Guinea                           | 2 611          | 97            |
| Guinea-Bissau                    | 53             | 2             |
| India                            | 86 286         | 183           |
| Iran (Islamic Republic of)       | 9 629          | 10            |
| Jordan                           | 86             | NR            |
| Kuwait                           | 10             | 0             |
| Lao People’s Democratic Republic | 0              | 0             |
| Libya                            | 6              | NR            |
| Mali                             | 3 805          | 60            |
| Mauritania                       | 2              | NR            |
| Namibia                          | 606            | 5             |
| Nepal                            | 9 120          | 17            |
| Saudi Arabia                     | 251            | NR            |
| Senegal                          | 460            | NR            |
| South Africa                     | 194            | NR            |
| South Sudan                      | 8 967          | 33            |
| Sudan                            | 2 670          | 15            |
| Timor-Leste                      | 119            | 0             |
| Togo                             | 2 660          | 44            |
| Uganda                           | 9 094          | NR            |
| <b>Total</b>                     | <b>195 021</b> | <b>722</b>    |

NR: not reported.

### WHO target, milestone and achievement

| Indicator                                                                         | Target (2030)  | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|-----------------------------------------------------------------------------------|----------------|------------------|-----------------|-----------------|
| Number of countries having achieved reduction of mortality by 50%                 | 132/132 (100%) | 32/132 (30%)     | 0               | 0               |
| Percentage of new antivenom producers joining market by 2030                      | 25%            | 5%               | NA              | NA              |
| Number of effective treatments for snakebite envenoming available worldwide       | 3 million      | 300 000          | NA              | NA              |
| Minimum number of WHO-recommended poly-specific antivenom products in each region | 6              | 2                | 3*              | 3*              |

NA: information not available.

\* Available in the African Region only.



Epidemiological data on the public health burden of taeniasis/cysticercosis as well as programmatic information on control interventions are scarce, with limited availability of data and feeble reporting.

As of end 2023, only a few countries reported having included taeniasis/cysticercosis in their action plans (Angola, Burkina Faso, Congo, Egypt, Eritrea, Eswatini, Kenya, Madagascar, Sao Tome and Principe, South Sudan, Sudan, Uganda and Viet Nam).

*Implementing Taenia solium control programmes: monitoring and evaluation framework*, released in 2024, provides guidance on mapping and impact surveys (102). A companion online “village selection tool” to facilitate the random selection of villages for monitoring purposes is also available on the WHO website (103).

Costa Rica, Honduras and the United Republic of Tanzania have identified endemic and high-risk areas using the WHO-recommended mapping protocol and tool (104). Namibia conducted an integrated survey to confirm endemicity in five districts at the border with Angola using the new monitoring and evaluation framework (102). This integrated survey included dracunculiasis, scabies, schistosomiasis and taeniasis.

Between 2020 and 2024, an agreement between Bayer AG and WHO enabled donation of praziquantel and niclosamide to requesting countries. By the end of 2024, approximately 704 000 tablets of niclosamide and 1 million tablets of praziquantel had been delivered for

MDA or individual treatment; recipient countries include Egypt, Cambodia, Colombia, Chile, Indonesia, Italy, Madagascar, Peru and Zambia (16). Bayer AG terminated its production and donation of praziquantel in 2024, while donation of niclosamide will continue.

In 2023 and 2024, four countries (Cambodia, Colombia, Madagascar and Peru) implemented MDA as a strategic approach for the intensified control of *T. solium*, at least in some areas, with praziquantel or niclosamide donated through WHO. Comprehensive interventions relying on the One Health approach are difficult to implement because funds are scarce for veterinary public health activities.

Access to antiepileptics for patients affected by neurocysticercosis requires improvement in some regions such as Africa (especially in rural areas), while it is considered satisfactory in others such as Latin America. Access to imaging diagnostics (computed tomography/magnetic resonance imaging) is problematic in many parts of the world, with widely differing availability, cost and expertise. Limited access to imaging diagnostic tools for cysticercosis also limits data reporting and prevents a full appreciation of the public health burden of this condition.

Work is ongoing to update the target product profiles for diagnostic tools for taeniasis and cysticercosis.

Further information is available in WHO’s Global Health Observatory (105).

WHO target, milestone and achievement

| Indicator                                                          | Target (2030) | Milestone (2023) | Achieved (2023) | Achieved (2024) |
|--------------------------------------------------------------------|---------------|------------------|-----------------|-----------------|
| Number of countries with intensified control in hyperendemic areas | 17/64 (27%)   | 4/64 (6%)        | 4/64 (6%)       | 4/64 (6%)       |

2.2 Number of people treated for NTDs

In 2023, the number of people treated for at least one NTD was approximately 867.1 million, of whom 864.6 million (over 99%) were treated through preventive chemotherapy interventions (MDA) and approximately 7.5 million (less than 1% of the total) received treatment through individual disease management. It is estimated

that approximately two thirds of those who received treatment through individual disease management were also targeted by preventive chemotherapy interventions; as such, only one third (2.5 million people) should be considered when calculating the total (864.6 + 2.5 = 867.1 million).

2.2.1 Preventive chemotherapy

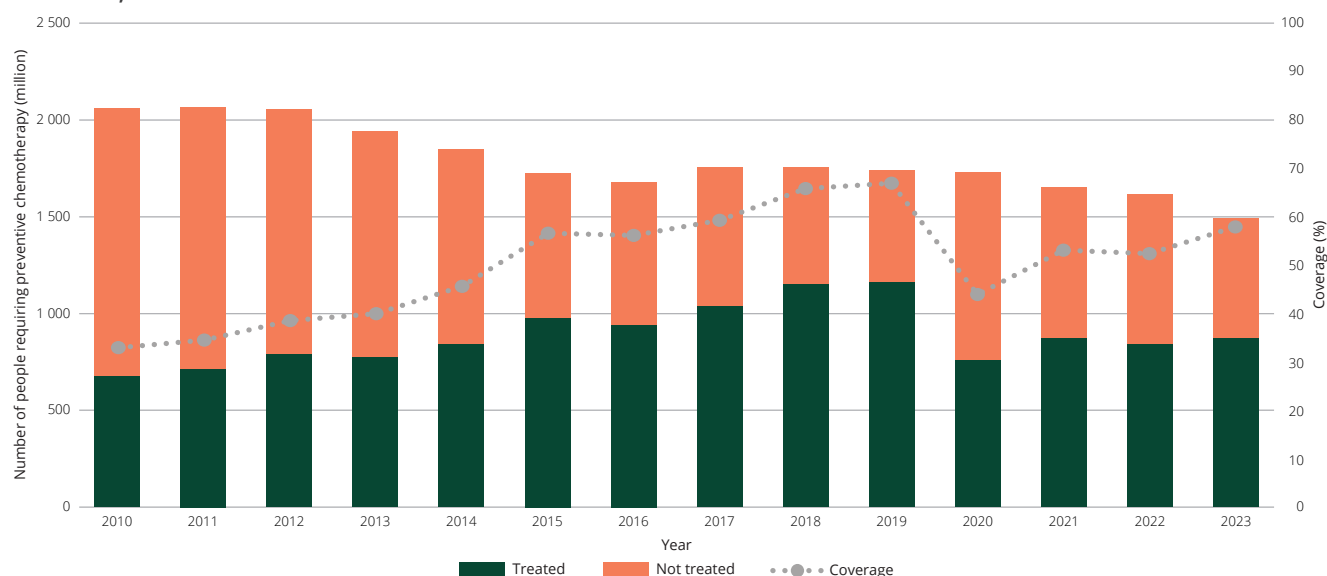
Following COVID-19 disruptions, the number of people treated through preventive chemotherapy dropped by over 30% between 2019 and 2020, and has not recovered yet. During 2021–2023, the number of

people treated annually has not changed much, but the coverage has increased due to a progressive reduction in the number of people requiring interventions. In 2023, of the 100 countries requiring preventive chemotherapy

for NTDs, 67 implemented this intervention, including all the top 15 countries where over 80% of the population requiring it lives; in those 67 countries, 864.6 million people received treatment against one or more NTDs. This figure factors in geographical overlapping of areas targeted by different types of MDA and therefore excludes double, triple, quadruple or quintuple counting of the same individual. The coverage achieved by preventive chemotherapy interventions in 2023 was 57.9%, compared with 52.4% in 2022 and 53.1% in 2021.

The number of people treated through preventive chemotherapy interventions is in fact higher than that reported above as well as that presented in Fig. 2.38. In 2023, an additional 103.7 million people received treatment but were not factored in because they do not require treatment according to WHO guidelines, although they are targeted for treatment based on national policies. More precisely, these people received albendazole or mebendazole for treatment of soil-transmitted helminthiases, although they belonged to age groups or lived in areas that WHO considers as not requiring interventions.

**Fig. 2.38. Number of people requiring preventive chemotherapy for at least one disease and coverage achieved, 2010–2023**



Data source: WHO/Global Health Observatory

## 2.2.2 Individual disease management

Every year, approximately 3–8 million people receive treatment for an NTD through individual disease management. This figure corresponds to less than 1% of the total number of people treated. It is also possible that this number is slightly lower, as a proportion of these people may receive individual treatment for more than one condition, although their number is unknown.

The number of people treated for an NTD through individual disease management is largely driven by the

number of dengue cases, which has been growing over the past few years. Generally speaking, the number of NTD cases detected and managed has increased since the end of the COVID-19 pandemic. The comparison between the 2022 and 2023 columns (Table 2.5) and those before show that data on a larger number of NTDs are now available and reported on. Collecting these additional data was made possible by the introduction of the GNARF.

Table 2.5. Number of cases reported to WHO for diseases requiring individual disease management, 2019–2023

| Disease                                                                 | 2019                         | 2020      | 2021      | 2022      | 2023      |
|-------------------------------------------------------------------------|------------------------------|-----------|-----------|-----------|-----------|
| <b>Buruli ulcer<sup>a</sup></b>                                         | 2 271                        | 1 459     | 1 665     | 2 119     | 1 961     |
| <b>Chikungunya<sup>a</sup></b>                                          | 185 054                      | 103 046   | 138 400   | 277 022   | 415 267   |
| <b>Dengue</b>                                                           | 5 059 379                    | 2 821 285 | 1 736 661 | 4 330 378 | 6 867 850 |
| <b>Dracunculiasis<sup>b</sup></b>                                       | 54                           | 27        | 15        | 13        | 14        |
| <b>Echinococcosis<sup>c</sup></b>                                       | 6 006                        | 3 785     | 2 889     | 7 863     | 8 369     |
| <b>Foodborne trematodiasis</b>                                          | <b>Clonorchiasis</b>         | –         | –         | 304       | 0         |
|                                                                         | <b>Fascioliasis</b>          | –         | –         | 6 213     | 1 004     |
|                                                                         | <b>Opisthorchiasis</b>       | –         | –         | 1 885     | 0         |
|                                                                         | <b>Paragonimiasis</b>        | –         | –         | 32        | 0         |
| <b>Human African trypanosomiasis</b>                                    | <b>gambiense</b>             | 876       | 565       | 747       | 675       |
|                                                                         | <b>rhodesiense</b>           | 116       | 98        | 55        | 24        |
| <b>Leishmaniasis<sup>d</sup></b>                                        | <b>cutaneous</b>             | 281 778   | 239 986   | 240 149   | 232 690   |
|                                                                         | <b>visceral</b>              | 14 649    | 12 081    | 11 998    | 13 028    |
| <b>Leprosy</b>                                                          |                              | 202 485   | 128 421   | 140 119   | 174 098   |
| <b>Mycetoma, chromoblastomycosis and other deep mycoses<sup>a</sup></b> | <b>Actinomycetoma</b>        | –         | –         | 278       | 27        |
|                                                                         | <b>Eumycetoma</b>            | –         | –         | 206       | 12        |
|                                                                         | <b>Chromoblastomycosis</b>   | –         | –         | 0         | 110       |
| <b>Noma<sup>e</sup></b>                                                 |                              | –         | –         | –         | 443       |
| <b>Rabies<sup>f</sup></b>                                               | 1 429                        | 1 086     | 1 117     | 1 980     | 2 439     |
| <b>Scabies and other ectoparasitoses</b>                                | <b>Scabies<sup>g</sup></b>   | –         | –         | 453 436   | 136 946   |
|                                                                         | <b>Tungiasis<sup>h</sup></b> | –         | –         | 6 452     | 269       |
| <b>Snakebite/snakebite envenoming<sup>e</sup></b>                       |                              | –         | –         | –         | 195 021   |
| <b>Trachoma<sup>i</sup></b>                                             | 92 622                       | 42 045    | 69 266    | 129 224   | 130 746   |
| <b>Yaws<sup>a</sup></b>                                                 | 98 162                       | 106 917   | 126 371   | 209 711   | 222 384   |

<sup>a</sup> Number of suspected cases (including confirmed cases).

<sup>b</sup> A total of 15 human cases of dracunculiasis were reported in 2024.

<sup>c</sup> Data refer to any type of echinococcosis.

<sup>d</sup> Number of autochthonous and imported cases.

<sup>e</sup> Number of confirmed and suspected cases.

<sup>f</sup> Number of deaths.

<sup>g</sup> Number of clinically-diagnosed and laboratory-confirmed cases.

<sup>h</sup> Number of clinical cases.

<sup>i</sup> Number of people operated for trachomatous trichiasis.

## References

- Ending the neglect to attain the sustainable development goals: a framework for monitoring and evaluating progress of the road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2021 (<https://iris.who.int/handle/10665/341313>).
- NTD interventions, people requiring interventions against NTDs, number: In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/indicators/indicator-details/GHO/reported-number-of-people-requiring-interventions-against-ntds>, accessed 20 June 2025).
- Global Health Estimates. In: WHO/Data [website]. Geneva: World Health Organization; 2025 (<https://www.who.int/data/global-health-estimates>, accessed 20 June 2025).
- GBD results. In: IHME/GHDx [website]. Seattle: Institute for Health Metrics and Evaluation; 2021 (<https://vizhub.healthdata.org/gbd-results/>, accessed 20 June 2025).

5. Vinkeles Melchers NVS, Stolk WA, van Loon W, Pedrique B, Bakker R, Murdoch ME, et al. The burden of skin disease and eye disease due to onchocerciasis in countries formerly under the African Programme for Onchocerciasis Control mandate for 1990, 2020, and 2030. *PLoS Negl Trop Dis.* 2021;15(7):e0009604 (<https://doi.org/10.1371/journal.pntd.0009604>).
6. GBD 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet.* 2020;396(10258):P1204–1222 ([https://doi.org/10.1016/S0140-6736\(20\)30925-9](https://doi.org/10.1016/S0140-6736(20)30925-9)).
7. Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2020 (<https://iris.who.int/handle/10665/338565>).
8. World Population Prospects 2024: methodology of the United Nations population estimates and projections. New York (NY): United Nations Department of Economic and Social Affairs; 2024 ([https://population.un.org/wpp/assets/Files/WPP2024\\_Methodology-Report\\_Final.pdf](https://population.un.org/wpp/assets/Files/WPP2024_Methodology-Report_Final.pdf), accessed 20 June 2025).
9. Zhour M, Shen H. Forecasting the global burden of disease to 2050. *Lancet.* 2024; 403(10440):1961–1963 ([https://doi.org/10.1016/S0140-6736\(24\)00932-2](https://doi.org/10.1016/S0140-6736(24)00932-2)).
10. Hotez PJ, Alvarado M, Basáñez M-G, Bolliger I, Bourne R, Boussinesq M, et al. The Global Burden of Disease Study 2010: Interpretation and implications for the neglected tropical diseases. *PLoS Negl Trop Dis.* 2014;8(7):e2865 (<https://doi.org/10.1371/journal.pntd.0002865>).
11. Global NTD Annual Reporting Form (Data platforms and tools). In: WHO/Control of Neglected Tropical Diseases [website]. Geneva: World Health Organization; 2025 (<https://www.who.int/teams/control-of-neglected-tropical-diseases/data-platforms-and-tools>, accessed 20 June 2025).
12. World Health Organization & UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases. Global vector control response 2017–2030. Geneva: World Health Organization; 2017 (<https://iris.who.int/handle/10665/259002>).
13. Situation report N.1: Dengue epidemiological situation in the Americas, 14 December 2023. In: PAHO/Documents [website]. Washington (DC): World Health Organization Regional Office for the Americas; 2023 (<https://www.paho.org/en/documents/situation-report-n1-dengue-epidemiological-situation-americas-14-december-2023>, accessed 20 June 2025).
14. Dengue and severe dengue. In: WHO/Health topics [website]. Geneva: World Health Organization; 2025 ([https://www.who.int/health-topics/dengue-and-severe-dengue?utm\\_source=chatgpt.com#tab=tab\\_1](https://www.who.int/health-topics/dengue-and-severe-dengue?utm_source=chatgpt.com#tab=tab_1), accessed 20 June 2025).
15. Global update on implementation of preventive chemotherapy (PC) against neglected tropical diseases (NTDs) in 2022 and status of donated medicines for NTDs in 2022–2023. *Wkly Epidemiol Rec.* 2024;98(52):681–696 (<https://iris.who.int/handle/10665/375359>).
16. Global update on implementation of preventive chemotherapy against neglected tropical diseases (NTDs) in 2023 and status of donated medicines for NTDs in 2024. *Wkly Epidemiol Rec.* 2024;99(51/52):760–769 (<https://iris.who.int/handle/10665/379878>).
17. A compendium of indicators for monitoring and evaluating progress of the road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2022 (<https://iris.who.int/handle/10665/365511>).
18. Ending the neglect to attain the sustainable development goals: a strategic framework for integrated control and management of skin-related neglected tropical diseases. Geneva: World Health Organization; 2022 (<https://iris.who.int/handle/10665/355448>).
19. Haiti humanitarian crisis – Grade 3. In: PAHO/ Situation reports [website]. Washington (DC): WHO Regional Office for the Americas; 2025 (<https://www.paho.org/en/haiti-humanitarian-crisis-grade-3>, accessed 20 June 2025).
20. Roma health report: health status of the Roma population. Data collection in the Member States of the European Union. Brussels: European Union; 2014 ([https://health.ec.europa.eu/system/files/2016-11/2014\\_roma\\_health\\_report\\_en\\_0.pdf](https://health.ec.europa.eu/system/files/2016-11/2014_roma_health_report_en_0.pdf), accessed 20 June 2025).
21. Roma health. In: WHO/Health topics [website]. Geneva: World Health Organization; 2025 ([https://www.who.int/europe/health-topics/roma-health#tab=tab\\_1](https://www.who.int/europe/health-topics/roma-health#tab=tab_1), accessed 20 June 2030).

22. Global report on neglected tropical diseases 2024. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/376657>).
23. Hsu J, Flores G, Evans D, Mills A, Hanson K. Measuring financial protection against catastrophic health expenditures: methodological challenges for global monitoring. *Int J Equity Health*. 2018;17:69 (<https://doi.org/10.1186/s12939-018-0749-5>).
24. Saksena P, Hsu J, Evans DB. Financial risk protection and universal health coverage: evidence and measurement challenges. *PLoS Med*. 2014;11(9):e1001701 (<https://doi.org/10.1371/journal.pmed.1001701>).
25. Moreno-Serra R, Millett C, Smith PC. Towards improved measurement of financial protection in health. *PLoS Med*. 2011;8(9):e1001087 (<https://doi.org/10.1371/journal.pmed.1001087>).
26. World Health Organization, International Bank for Reconstruction and Development & World Bank. Tracking universal health coverage: 2023 global monitoring report. Geneva: World Health Organization; (2023 (<https://iris.who.int/handle/10665/374059>)).
27. World Health Organization & International Bank for Reconstruction and Development. Tracking universal health coverage: 2021 global monitoring report. Geneva: World Health Organization; 2021 (<https://iris.who.int/handle/10665/357607>).
28. End poverty in all its forms everywhere. In: United Nations Department of Economic and Social Affairs/ The 17 Goals [website]. New York (NY): United Nations (<https://sdgs.un.org/goals/goal1>, accessed 11 August 2025).
29. SDG 3.8.2 Catastrophic health spending (and related indicators). In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/topic-details/GHO/financial-protection>, accessed 20 June 2025).
30. Monitoring universal health coverage (UHC). In: WHO/Data [website]. Geneva: World Health Organization (<https://www.who.int/data/monitoring-universal-health-coverage>, accessed 20 June 2025).
31. Global report on health equity for persons with disabilities. Geneva: World Health Organization; 2022 (<https://iris.who.int/handle/10665/364834>).
32. Dracunculiasis eradication: global surveillance summary, 2024. *Wkly Epidemiol Rec*. 2025;100 (20/21):165–191 (<https://iris.who.int/handle/10665/381456>).
33. Dracunculiasis eradication: global surveillance summary, 2023. *Wkly Epidemiol Rec*. 2024;99(20):249–269 (<https://iris.who.int/handle/10665/376790>).
34. Dracunculiasis (Guinea-worm disease). In: WHO/Global Health Observatory [website]. Geneva: World Health Organization; 2025 (<https://www.who.int/data/gho/data/themes/topics/dracunculiasis-guinea-worm-disease>, accessed 20 June 2025).
35. Eradication of yaws: a guide for programme managers. Geneva: World Health Organization; 2018 (<https://iris.who.int/handle/10665/259902>).
36. Transitioning from BU-LABNET to Skin NTD LABNET. In: WHO/News [website]. Geneva: World Health Organization; 2023 (<https://www.who.int/news/item/03-11-2023-transitioning-from-bu-labnet-to-skin-ntd-labnet>, accessed 20 June 2025).
37. WHO Skin NTD LABNET. In: WHO/Groups [website]. Geneva: World Health Organization; 2023 (<https://www.who.int/groups/skin-ntds-laboratory-network>, accessed 20 June 2025).
38. Skin health for all: update on skin neglected tropical diseases with a focus on Buruli ulcer and yaws. *Wkly Epidemiol Rec*. 2015;100 (24/25):239–249 (<https://iris.who.int/handle/10665/381651>).
39. Yaws (endemic treponematoses). In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/yaws-endemic-treponematoses>, accessed 20 June 2025).
40. Criteria and procedures for the verification of elimination of transmission of *T. b. gambiense* to the human population in a given country. Geneva: World Health Organization; 2023 (<https://iris.who.int/handle/10665/373875>).
41. Human African trypanosomiasis eliminated as a public health problem in Chad. *Wkly Epidemiol Rec*. 2024;99(20):269–270 (<https://iris.who.int/handle/10665/376791>).
42. Guidelines for the treatment of human African trypanosomiasis. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/378083>).
43. Human African trypanosomiasis. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/human-african-trypanosomiasis>, accessed 20 June 2025).

44. Interruption of transmission and elimination of leprosy disease. New Delhi: WHO Regional Office for South-East Asia; 2023 (<https://iris.who.int/handle/10665/371400>).
45. Jordan becomes first country to receive WHO verification for eliminating leprosy. In: WHO/News [website]. Geneva: World Health Organization; 2024 (<https://www.who.int/news/item/19-09-2024-jordan-becomes-first-country-to-receive-who-verification-for-eliminating-leprosy>, accessed 20 June 2025).
46. Global leprosy (Hansen disease) update, 2023: Elimination of leprosy disease is possible – Time to act! Wkly Epidemiol Rec. 2024;99(37):501–521 (<https://iris.who.int/handle/10665/378895>).
47. Leprosy (Hansen disease). In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/leprosy-hansens-disease>, accessed 20 June 2025).
48. Onchocerciasis elimination mapping: a handbook for national elimination programmes. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/381333>).
49. Progress in eliminating onchocerciasis in the WHO Region of the Americas: Report from the Inter-American Conference on Onchocerciasis (IACO) 2023. Wkly Epidemiol Rec. 2024;99(39):545–550 (<https://iris.who.int/handle/10665/379057>).
50. Elimination of human onchocerciasis: progress report, 2023–2024. Wkly Epidemiol Rec. 2024;99(41):577–590 (<https://iris.who.int/handle/10665/379216>).
51. Onchocerciasis. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/onchocerciasis>, accessed 20 June 2025).
52. Guidelines for stopping mass drug administration and verifying elimination of human onchocerciasis: criteria and procedures. Geneva: World Health Organization; 2016 (<https://iris.who.int/handle/10665/204180>).
53. Global Onchocerciasis Network for Elimination (GONE). In: WHO/Initiatives [website]. Geneva: World Health Organization (<https://www.who.int/initiatives/global-onchocerciasis-network-for-elimination>, accessed 20 June 2025).
54. World Health Assembly, 72. World Chagas Disease Day. Geneva: World Health Organization; 2019 (<https://iris.who.int/handle/10665/328471>).
55. World Chagas Disease Day. In: WHO/Campaigns [website]. Geneva: World Health Organization; 2025 (<https://www.who.int/campaigns/world-chagas-disease-day>, accessed 20 June 2025).
56. Elimination of human African trypanosomiasis as public health problem. Wkly Epidemiol Rec. 2022;97(21/22):247–248 (<https://iris.who.int/handle/10665/354577>).
57. New framework launched to eliminate visceral leishmaniasis in eastern Africa. In: WHO/News [website]. Geneva: World Health Organization (<https://www.who.int/news/item/12-06-2024-new-framework-launched-to-eliminate-visceral-leishmaniasis-in-eastern-africa#:~:text=The%20framework%20was%20developed%20by,health%20ministries%20across%20the%20region>, accessed 20 June 2025).
58. Strategic framework for the elimination of visceral leishmaniasis as a public health problem in eastern Africa 2023–2030. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/376833>).
59. Strategic framework for the elimination of visceral leishmaniasis as a public health problem in eastern Africa 2023–2030: web annex: the Nairobi Declaration. Geneva: World Health Organization; 2024 (<https://doi.org/10.2471/B09041>).
60. Global leishmaniasis surveillance updates 2023: 3 years of the NTD road map. Wkly Epidemiol Rec. 2024;99(45):653–669 (<https://iris.who.int/handle/10665/379491>).
61. Leishmaniasis. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/gho-ntd-leishmaniasis>, accessed 20 June 2025).
62. Courses. In: WHO Academy [website]. Lyon: World Health Organization (<https://whoacademy.org>, accessed 20 June 2025).
63. Global programme to eliminate lymphatic filariasis: progress report, 2023. Wkly Epidemiol Rec. 2024;99(40):565–576 (<https://iris.who.int/handle/10665/379120>).
64. Lymphatic filariasis (Elephantiasis). In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/lymphatic-filariasis>, accessed 20 June 2025).

65. Bonaparte SC, Moodie J, Undurraga EA, Wallace RM. Evaluation of country infrastructure as an indirect measure of dog-mediated human rabies deaths. *Front Vet Sci*. 2023;10:1147543 (<https://pubmed.ncbi.nlm.nih.gov/37228840/>).
66. Accelerating programmatic progress and access to biologicals for the control of neglected tropical zoonoses. *Wkly Epidemiol Rec*. 2024;99(23):307–318 (<https://iris.who.int/handle/10665/376980>).
67. Hampson K, Coudeville L, Lembo T, Sambo M, Kieffer A, Attlan M et al. Correction: Estimating the Global Burden of Endemic Canine Rabies. *PLoS Negl Trop Dis*. 2015; 9(5):e0003786 (<https://doi.org/10.1371/journal.pntd.0003709>).
68. World Health Organization, Food and Agriculture Organization of the United Nations, World Organisation for Animal Health & United Nations Environment Programme. One health joint plan of action (2022–2026): working together for the health of humans, animals, plants and the environment. Geneva: World Health Organization; 2022 (<https://doi.org/10.4060/cc2289en>).
69. REDIPRA 17. Regional Plan for the elimination of canine rabies 2024–2030. Washington (DC): Pan American Health Organization; 2023 (<https://iris.paho.org/handle/10665.2/58961>).
70. A dual battle: rabies and snakebite envenoming in South-East Asia. *Wkly Epidemiol Rec*. 2025;100(32/33):309–319 (<https://iris.who.int/handle/10665/382208>).
71. Rabies. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/rabies>, accessed 20 June 2025).
72. Schistosomiasis and soil-transmitted helminthiases: progress report, 2023. *Wkly Epidemiol Rec*. 2024;99(48):707–717 (<https://iris.who.int/handle/10665/379716>).
73. Schistosomiasis. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/schistosomiasis>, accessed 20 June 2025).
74. WHO guideline on preventive chemotherapy for public health control of strongyloidiasis. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/378257>).
75. Soil-transmitted helminthiases. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/soil-transmitted-helminthiases>, accessed 20 June 2025).
76. WHO Alliance for the Global Elimination of Trachoma: progress report on elimination of trachoma, 2023. *Wkly Epidemiol Rec*. 2024;99(28):363–379 (<https://iris.who.int/handle/10665/378196>).
77. Trachoma. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/trachoma>, accessed 20 June 2025).
78. Buruli ulcer. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/buruli-ulcer>, accessed 20 June 2025).
79. Prequalified vaccines. In: WHO/Prequalification of Medical Products [website]. Geneva: World Health Organization (<https://extranet.who.int/prequal/vaccines/prequalified-vaccines>, accessed 11 August 2025).
80. Programa Regional para la eliminación de la equinococosis quística/hidatidosis 2020–2029 [Regional programme for the elimination of cystic echinococcosis and hydatid disease 2020–2029]. Washington (DC): Pan American Health Organization; 2021 (<https://www.paho.org/es/documentos/programa-regional-para-eliminacion-equinococosis-quistica-hidatidosis-2020-2029>, accessed 20 June 2025).
81. Diseases Elimination Initiative. In: PAHO/Elimination initiative [website]. Washington (DC): Pan American Health Organization (<https://www.paho.org/en/elimination-initiative>, accessed 20 June 2025).
82. Operational guidelines for the elimination of human fascioliasis as a public health problem in the Americas. Washington (DC): Pan American Health Organization; 2024 (<https://www.who.int/publications/i/item/9789275128084>).
83. Leishmaniasis. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/gho-ntd-leishmaniasis>, accessed 20 June 2025).
84. How Ada saved her younger brother's life from noma. In: WHO Regional Office for Africa [video] (<https://www.afro.who.int/node/20878>).
85. Saving smiles, saving lives: advancing oral health in Africa. In: WHO Regional Office for Africa [video] (<https://www.afro.who.int/node/20880>).

86. Ethiopia spreading awareness of noma among communities. In: WHO Regional Office for Africa [video] (<https://x.com/WHOAFRO/status/1956657196143444000>).
87. Noma. In: WHO/Fact sheets [website]. Geneva: World Health Organization; 2023 (<https://www.who.int/news-room/fact-sheets/detail/noma>, accessed 20 June 2025).
88. Scabies. In: WHO/Fact sheets [website]. Geneva: World Health Organization; 2023 (<https://www.who.int/news-room/fact-sheets/detail/scabies>, accessed 20 June 2025).
89. Tungiasis. In: WHO/Fact sheets [website]. Geneva: World Health Organization; 2023 (<https://www.who.int/news-room/fact-sheets/detail/tungiasis>, accessed 20 June 2025).
90. Worldwide distribution of medically important snake species, with the relative abundance of species in each country [Fig. 1]. In: Snakebite envenoming: a strategy for prevention and control. Geneva: World Health Organization; 2019:3 (<https://iris.who.int/handle/10665/324838>).
91. Snakebite envenoming: a strategy for prevention and control. Geneva: World Health Organization; 2019: (<https://iris.who.int/handle/10665/324838>).
92. Target product profiles for animal plasma-derived antivenoms: antivenoms for treatment of snakebite envenoming in sub-Saharan Africa. Geneva: World Health Organization; 2023 (<https://iris.who.int/handle/10665/369786>).
93. Harrison RA, Hargreaves A, Wagstaff SC, Faragher B, Laloo DG. Snake envenoming: a disease of poverty. *PLoS Negl Trop Dis*. 2009;3(12):e569 (<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0000569>).
94. Dramé BS, Diarra A, Diani N, Dabo A. Aspects épidémiologiques, cliniques et thérapeutiques des morsures de serpent dans les hôpitaux nationaux Gabriel-Touré et de Kati du Mali: étude rétrospective sur dix ans [Epidemiological, clinical and therapeutics aspects of snakebites in the Gabriel-Touré and Kati national hospitals of Mali: a ten-year retrospective study]. *Bull Soc Pathol Exot*. 2012;105(3):184–8 (in French) (<https://link.springer.com/article/10.1007/s13149-012-0240-2>, accessed 20 June 2025).
95. Pandey DP. Epidemiology of snakebites based on field survey in Chitwan and Nawalparasi districts, Nepal. *J Med Toxicol*. 2007;3(4):164–8 (<https://pubmed.ncbi.nlm.nih.gov/18072170/>).
96. Chippaux JP. Estimate of the burden of snakebites in sub-Saharan Africa: a meta-analytic approach. *Toxicon*. 2011;57(4):586–99 (<https://pubmed.ncbi.nlm.nih.gov/21223975/>).
97. Sharma SK, Khanal B, Pokhrel P, Khan A, Koirala S. Snakebite-reappraisal of the situation in Eastern Nepal. *Toxicon*. 2003;41(3):285–9 (<https://pubmed.ncbi.nlm.nih.gov/12565750/>).
98. GBD 2019 Snakebite Envenomation Collaborators. Global mortality of snakebite envenoming between 1990 and 2019. *Nat Commun*. 2022;13(1):6160 (<https://pubmed.ncbi.nlm.nih.gov/36284094/>).
99. Better snakebite data needed to save lives and limbs. In: WHO/EMR/News [website]. Cairo: World Health Organization Eastern Mediterranean Region (<https://www.emro.who.int/media/news/better-snakebite-data-needed-to-save-lives-limbs.html>, accessed 20 June 2025).
100. Progress in snakebite envenoming data reporting: challenges and opportunities. *Wkly Epidemiol Rec*. 2024;99(51/52):770–775 (<https://iris.who.int/handle/10665/379879>).
101. Snakebite envenoming. In: WHO/Snakebite Information and Data Platform [website]. Geneva: World Health Organization; 2025 (<https://www.who.int/teams/control-of-neglected-tropical-diseases/snakebite-envenoming/snakebite-information-and-data-platform>, accessed 20 June 2025).
102. Implementing *Taenia solium* control programmes in countries: monitoring and evaluation framework. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/379614>).
103. Village selection tool. In: WHO/ [website]. Geneva: World Health Organization ([https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fapps.who.int%2Fneglected\\_diseases%2Fntddata%2Fforms%2Ftaenia%2Fen%2FWHO\\_VST\\_TSOL\\_v1.xlsm&wdOrigin=BROWSELINK](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fapps.who.int%2Fneglected_diseases%2Fntddata%2Fforms%2Ftaenia%2Fen%2FWHO_VST_TSOL_v1.xlsm&wdOrigin=BROWSELINK), accessed 20 June 2025).
104. Mapping protocol for *Taenia solium*: identification of endemic and high-risk areas. Geneva: World Health Organization; 2023 (<https://iris.who.int/handle/10665/372868>).
105. Taeniasis and cysticercosis. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/taeniasis-cysticercosis>, accessed 20 June 2025).

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## 3. Progress under road map pillars

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### 3.1 Pillar 1 – Accelerate programmatic action

#### 3.1.1 Technical advances

##### *Research & development blueprint for neglected tropical diseases*

In order to address research questions related to NTDs, in 2024 WHO launched the process for developing a research & development (R&D) blueprint for NTDs; publication is expected in 2025 (1,2). This blueprint will have global scope across all NTDs; its aim is to identify the R&D priorities that could lead to advances that significantly reduce how frequently these conditions occur, and improve the quality of life of affected people. It will be published by WHO so that all stakeholders can refer to it and use it for decision-making; notably, a ranked list of R&D priorities for NTDs is expected to help health ministries, their partner organizations, researchers and research funders to direct available resources or mobilize new ones to the topics of greatest urgency. The R&D blueprint will cover all types of basic, clinical, social science and epidemiological research, including health product development and operational and implementation research; it will be developed through a broad-based consensus-building process involving NTD-endemic countries, people affected by NTDs, researchers, health-care workers, NTD programme personnel and individuals who staff funding organizations. To effect this vision, in 2024 WHO launched a call for action to invite stakeholders from all disciplines to volunteer as contributors to the R&D blueprint. After it is published, a re-assessment of the identified R&D priorities and their progress will be undertaken at regular intervals.

##### *Diagnostics*

Under guidance by the WHO Diagnostic Technical Advisory Group for Neglected Tropical Diseases (DTAG), a total of 25 target product profiles for NTD diagnostics are currently available, covering 13 diseases or groups of diseases (Buruli ulcer, dracunculiasis, human African trypanosomiasis, cutaneous and visceral leishmaniasis, leprosy, lymphatic filariasis, mycetoma, onchocerciasis, scabies, schistosomiasis, soil-transmitted helminthiasis, trachoma and yaws). An additional two are available for animal plasma derived antivenoms for treatment of snakebite envenoming in Africa and south Asia. In total, six target product profiles were developed and published in the course of 2024. Annex 4 provides the list of target product profiles published as of December 2024.

##### *Effective interventions*

In 2017, WHO recommended the combination of ivermectin, diethylcarbamazine and albendazole (known as IDA or triple-therapy for MDA against lymphatic filariasis) in certain settings (3). IDA is more effective in clearing microfilariae for longer periods of time than the standard two-drug regimens, and can increase the impact of treatment on transmission of lymphatic filariasis outside of Africa and in areas of Africa that are not co-endemic with loiasis or onchocerciasis (where DEC cannot be used). In 2023, 11 countries, territories and areas implemented the IDA triple therapy (Fiji, French Polynesia, Haiti, India, Indonesia, Madagascar, Malaysia, Nepal, New Caledonia, Papua New Guinea, Philippines) in at least one district endemic for lymphatic filariasis and more than 125.4 million people received treatment.

## 3.1.2 Strategy and service delivery

### **Operational and normative guidance**

A total of 50 NTD publications of global and regional relevance were published by WHO in 2024. These included WHO guidelines, guidance documents, target product profiles, strategic frameworks and plans, operational manuals, meeting reports and issues of the *Weekly Epidemiological Record*.

A few examples include the *Guidelines for the treatment of human African trypanosomiasis* (4); the *WHO guideline on preventive chemotherapy for public health control of strongyloidiasis* (5); and *Assessing schistosomiasis and soil-transmitted helminthiasis control programmes: monitoring and evaluation framework* (6).

The *Guidelines for the treatment of human African trypanosomiasis*, released in June 2024, provide up-to-date guidance on treatment of the gambiense and rhodesiense forms of human African trypanosomiasis; notably, following a recent extension of indication, they introduce fexinidazole for the treatment of rhodesiense HAT, and recommend other updates for gambiense HAT, thus leading to a substantial reconfiguration of therapeutic options for both disease forms. This new set of guidelines replaces the *WHO interim guidelines for the treatment of gambiense HAT* (2019) (7) which originally introduced fexinidazole for gambiense HAT, and the 2013 document entitled *Control and surveillance of human African trypanosomiasis: report of a WHO Expert Committee* (8), which had established treatment protocols for both gambiense and rhodesiense HAT (the latter had remained unchanged since then).

The *WHO guideline on preventive chemotherapy for public health control of strongyloidiasis* (5), published in July 2024, represents the first ever set of WHO guidelines dedicated to this condition, and its development and issuance had been recommended by the road map as a key step to effectively tackle its burden. While this document is not intended to replace any standard of care for treatment of clinical strongyloidiasis, it introduces options for tackling this disease from a public health perspective. The decision-making algorithm is based on thresholds of prevalence of infection, which have been designed to orientate the decision on whether mass treatment with single-dose (200 µg/kg) ivermectin should target both adults and children (community treatment), only children (school-based programme) or not be implemented, rather relying on management of infected individuals.

*Assessing schistosomiasis and soil-transmitted helminthiasis control programmes: monitoring and evaluation framework* (6), published in October 2024, aims to guide the collection of epidemiological and

programmatic information that would steer disease control interventions towards the elimination of these two conditions as public health problems, and adjust strategic action accordingly through an evidence-based approach (9). The manual is designed to ensure decision-makers – from national health ministries to local teams – can assess progress, adapt interventions, adjust medicine needs and allocate resources efficiently as disease patterns shift.

Key regional publications released in 2024 include the *Regional strategic framework for sustaining, accelerating and innovating to end neglected tropical diseases in the South-East Asia Region 2024–2030* (10); the *Strategic framework for the elimination of visceral leishmaniasis as a public health problem in eastern Africa* (11); and the *Operational guidelines for the elimination of human fascioliasis as a public health problem in the Americas* (12).

The *Regional strategic framework for sustaining, accelerating and innovating to end neglected tropical diseases in the South-East Asia region 2024–2030* (10), published in May 2024, aims to guide regional efforts and contributions towards achieving the targets set in the road map. Building on a 10-year experience of elimination of NTDs as a regional flagship programme, the strategic framework offers an update on the epidemiological and programmatic status of NTDs in South-East Asia, reviews challenges and opportunities, and proposes a vision, a goal and a set of outcomes and outputs, as well as strategic priorities of action in line with the three pillars of the road map. Its monitoring and evaluation plan adapts the global road map's targets by tailoring them to the regional scenario, thus proposing a set of indicators that can suitably help track progress towards elimination of NTDs in South-East Asia.

The *Strategic framework for the elimination of visceral leishmaniasis as a public health problem in eastern Africa* (11), released in June 2024, aims at guiding efforts towards achieving this target in nine affected countries (Chad, Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda) by setting targets for 2030 and milestones for 2027. Notably, the framework outlines impact and process objectives, strategies and implementation phases, as well as details on monitoring and evaluation and how to track progress towards elimination as a public health problem. The framework is complemented by the Nairobi Declaration (13), through which the nine countries expressed their commitment to achieving elimination of visceral leishmaniasis as a public health problem by endorsing a set of recommendations, and tasked WHO to continue to provide leadership, assistance and guidance to achieve this target.

In line with its initiative to eliminate more than 30 communicable diseases and related conditions in the Region of the Americas by 2030, PAHO coordinated the development of a set of *Operational guidelines for the elimination of human fascioliasis as a public health problem in the Americas* (12), which were released in July 2024. The aim of the guidelines is to help endemic countries move towards achieving this target, defined as a sustained prevalence less than or equal to 5%, without high-intensity infections (400 eggs per gram of faeces). This can be achieved through a comprehensive, intersectoral One Health approach, which comprises interventions in humans, animals, plants and the environment, as well as food safety, sanitation, training, health promotion and health education.

A total of six target product profiles were released in 2024 (Annex 4). Five related to diagnostics: two on dracunculiasis (to detect presence of *D. medinensis* in environmental samples and to detect prepatent infection in animals); two on visceral leishmaniasis (to confirm diagnosis and to confirm cure); and one on trachoma surveillance (with three use cases: newly suspected endemic evaluation units, post-MDA evaluation units and evaluation units with unusual epidemiology). An additional target product profile is focused on an animal plasma-derived antivenom for treatment of snakebite envenoming in south Asia.

NTDs were the subject of nine issues of WHO's *Weekly Epidemiological Record* published in 2024 (Annex 3): these included articles reporting global yearly progress updates on different NTDs: dracunculiasis, leishmaniasis, leprosy, lymphatic filariasis, onchocerciasis, rabies, schistosomiasis, snakebite envenoming and trachoma. An additional article focused on implementation of preventive chemotherapy in 2023 and the status of donated NTD medicines in 2024. Additional issues were dedicated to regional updates on NTDs or to proceedings of events, such as the 36th meeting of the International Task Force for Disease Eradication, which focused on the "global impact of climate change and health" and "the impact of climate change on disease eradication and elimination."

### *Access and logistics*

Interventions against NTDs are supported by one of the largest medicine donation programmes globally: as of end 2024, 19 different types of medicines were donated by 12 manufacturers to support NTD interventions. Of these, 18 formulations are donated by 10 manufacturers to WHO, while two formulations (of ivermectin for lymphatic filariasis and onchocerciasis, and azithromycin for trachoma) are donated directly by two manufacturers to national health authorities through other institutions. Between 2011 and 2024, almost 30 billion tablets

and vials were delivered to countries; 1.8 billion were donated and delivered for treatments carried out in 2024 alone, of which approximately 50% were managed by WHO (see Annex 2).

Although no donation programmes exist for NTD diagnostics, in 2024 WHO facilitated the procurement of over 1 million individual tests for Chagas disease, human African trypanosomiasis, lymphatic filariasis, visceral leishmaniasis and yaws; procurement of diagnostics through WHO is made possible thanks to financial contributions from various partners.

In recent years, lack of funding for distribution of medicines at country level, suboptimal ordering, supplying and delivering of donated medicines as well as evolving national and international rules and regulations related to these processes have resulted in delayed deliveries, wastage of tablets and vials, inefficient production (stock-outs and over-stocks), increasing programme costs and consequent delays in treatment programmes. In order to address these challenges, the Global Coordination and Stewardship Committee (GCSC) was established in January 2024 to provide a structured framework for effective management, coordination and stewardship of donated NTD medicines globally. The GCSC is formed by WHO, pharmaceutical companies, nongovernmental organizations, donor organizations, implementing partners, health ministries, technological companies and logistics providers. GCSC conducted its first in-person meeting in September 2024, has reviewed the current challenges related to supply chain and management, and has developed an action plan to be implemented in 2024 and 2025.

At the same time, a 5-year pilot project funded by the Bill & Melinda Gates Foundation (Gates Foundation) was launched with the aim of fostering collaboration among national NTD programmes, WHO country offices, regional offices and headquarters, pharmaceutical manufacturers as well as funding and implementation partners, and improving NTD supply chains in Africa. The 5-year project (November 2023–October 2028), called the Supply Chain Technical Support Mechanism (SCTSM) for NTD programmes, focuses initially on eight priority countries requiring large numbers of donated medicines: the Democratic Republic of the Congo, Ethiopia, Kenya, Madagascar, Mozambique, Nigeria, Uganda and the United Republic of Tanzania. The SCTSM reports to the GCSC about challenges faced, lessons learnt and solutions identified, with the aim of further sharing them with all countries globally. The first steps taken by the SCTSM were offering support to health ministry NTD programmes on supply chain management issues, starting the development of global products such as a multi-year forecasting tool for preventive chemotherapy NTD medicines, and advising NTD programmes in meetings of the GCSC and the Supply Chain Forum.

In 2024, manufacturers of NTD medicinal products were invited to submit an expression of interest for product evaluation to the WHO Prequalification unit, which included newly-invited medicines such as arpraziquantel, rifampicin and moxidectin (14).

In 2024, six formulations of NTD medicines were prequalified by WHO: three formulations of albendazole, and one formulation each of azithromycin, miltefosine and praziquantel, bringing the total of NTD finished pharmaceutical products on the WHO prequalified list to 20: four formulations of albendazole, one formulation of azithromycin, one formulation of diethylcarbamazine, two formulations of ivermectin, one formulation of liposomal amphotericin B, one formulation of mebendazole, one formulation of miltefosine, three formulations of praziquantel and four formulations of rifampicin; the list also includes one formulation of arpraziquantel and one formulation of fexinidazole, which were added to the list of NTD products prequalified by WHO on the basis of advice by the European Medicines Agency, according to Article 58 of Regulation (EC) No 726/2004, which allows the Agency's Committee for Medicinal Products for Human Use to give opinions in cooperation with WHO on medicines intended for use in low- and middle-income countries outside the European Union to address public health priorities.

Also, on 9 May 2024 a new vaccine for dengue, Qdenga (TAK-003), received WHO prequalification. Qdenga (TAK-003) is the second dengue vaccine to be prequalified by WHO. This live-attenuated vaccine contains weakened versions of the four serotypes of the virus that cause dengue. Its use is recommended in children aged

6–16 years living in settings with high dengue burden and transmission intensity.

During the course of the year, one active pharmaceutical ingredient (API) for miltefosine was prequalified by WHO, bringing the total number of NTD APIs prequalified by WHO to eight, as of 31 December 2024. The list includes one API of mebendazole, one API of miltefosine and six APIs of praziquantel.

The list of NTD products reviewed by the Expert Review Panel (ERP) includes one formulation of miltefosine, one diagnostic test for lymphatic filariasis and other products (in risk category 3) for which procurement can be considered when there is no alternative. Products that are neither WHO-prequalified nor approved by a stringent regulatory authority are assessed by an independent technical advisory body convened by WHO (the ERP), and added to a list that enables their time-limited procurement.

In December 2024, the Ghana Food and Drugs Authority authorized the use of moxidectin for the treatment of onchocerciasis in adults and children aged 4 years and older, thus making Ghana the first endemic country to achieve this milestone, which paves the way for the implementation of pilot MDA interventions. In 2018, the United States Food and Drug Administration had approved moxidectin for the treatment of onchocerciasis, the first new registration of a medicine for this disease in 30 years. In 2023, the WHO Paediatric Drug Optimization initiative had added moxidectin to the list of priority medicines for paediatric drug optimization for treatment of onchocerciasis and scabies.

### 3.1.3 Enablers: advocacy and funding, collaboration and multisectoral action, capacity and awareness building

The year 2024 opened with the launch of the *GLOBAL APPEAL 2024 to End Stigma and Discrimination against Persons Affected by Leprosy*, convened by the Sasakawa Health Foundation and hosted by WHO at its headquarters in Geneva (15). Over the following months, new partnerships were established: thanks to advocacy efforts by WHO and the United Arab Emirates, Gavi, the Vaccine Alliance had included rabies in its 2021–2025 strategy; to move towards its operationalization, a co-financing model supporting eligible countries to access human rabies PEP was launched in 2024, with the aim of reducing preventable deaths and boosting access to life-saving human rabies vaccines in more than 50 countries (16). Also, a memorandum of understanding was signed between the Global Health Innovative Technology Fund (GHIT) and WHO to further expand their partnership and promote access to safe, affordable and effective medicines, vaccines and diagnostics

for NTDs (17). An international high-level meeting on dracunculiasis eradication was convened by the President of Chad in N'Djaména on 16–17 September 2024 with the objective of strengthening commitment among endemic countries as well as national and international institutions and mobilize support towards eradication of the disease through strategic dialogue. During the meeting the Ministers of Health of Cameroon, the Central African Republic and Chad committed themselves to the eradication objective and pledged to scale up and sustain efforts in line with the road map, which calls to end NTDs including dracunculiasis by the end of the decade (18,19).

Communiqués released at the end of the Apulia/Italy G7 meeting and the Rio de Janeiro/Brazil G20 mentioned NTDs. Notably, the G7 leaders recommitted to “ending HIV, tuberculosis, and malaria, in particular by supporting the Global Fund to Fight AIDS, Tuberculosis

and Malaria, as well as neglected tropical diseases and polio as public health threats by 2030, and countering climate change effects on infectious diseases” (20). The G20 Rio de Janeiro Leaders’ Declaration welcomed “the establishment of a Coalition for Local and Regional Production, Innovation and Equitable Access centered on voluntary cooperation in order to promote access to vaccines, therapeutics and diagnostics, and other health technologies for neglected diseases and persons in vulnerable situations” (21).

Also in 2024, WHO expanded its offer of online courses dedicated to NTDs, releasing a total of 33 new products in both UN official (Chinese, English, French, Spanish) and national languages (Amharic, Bahasa-Indonesia and Portuguese) that were published on the OpenWHO platform. The courses covered 23 topics, of which nine were new technical topics and 14 were topics on which courses already existed.

The NTD channel of the OpenWHO platform was discontinued on 31 December 2024, as a consequence of the transfer of online learning functions to the WHO Academy (Lyon, France). By that date, courses on 37 different disease-specific and cross-cutting subjects had been published, many of which were available in multiple languages: in addition to the six official UN languages (Arabic (5), Chinese (10), English (37), French (11), Russian (3) and Spanish (11)), courses were variously

available in Amharic (2), Bahasa-Indonesia (7), Catalan (1), Dari (1), Hausa (1), Hindi (2), Pashto (1), Portuguese (9) and Ukrainian (1), for a total of 102 products in 15 languages.

During 2024, NTD courses were migrated from the Open WHO platform to the WHO Academy (22). By the end of the year, migration was completed for 60 of the 102 products, albeit not in a dedicated NTD channel and with no directory of topics; a search has to be conducted by keyword instead. To facilitate retrieval of the courses, a dedicated page has been created on the WHO/NTD website.

Between June and October 2024, the first-ever real-world assessment of the WHO Skin NTDs App took place in Kenya, with encouraging results. The App is powered by two artificial intelligence (AI)-based algorithms: one (developed by Universal Doctor for WHO) focusing on 12 skin-related neglected tropical diseases (skin NTDs); the other (developed by Belle.ai, customized at WHO’s request) for 24 common skin conditions. The assessment was carried out across five counties in Kenya: during the exercise 40 health ministry front-line health workers at the primary health care level collected 605 images of skin lesions from an equal number of patients and provided comprehensive feedback on use of the App and its capacity to guide users to the correct diagnostic conclusions.

## 3.2 Pillar 2 – Intensify cross-cutting approaches

The road map envisages three key areas related to cross-cutting approaches: (i) integration across NTDs; (ii) cross-sectoral coordination; and (iii) mainstreaming within

national health systems. A few highlights of progress made in these areas during 2024 are presented below.

### 3.2.1 Integrating across NTDs

Evidence published in 2024 showed that implementing an integrated campaign combining skin screening and MDA of praziquantel for treatment of schistosomiasis is feasible in a resource-poor setting, and that although this joint activity may not be associated with immediate cost savings, people do appreciate receiving comprehensive service packages (23). In June 2023, the Ministry of Health and Public Hygiene of Côte d’Ivoire piloted screening for skin NTDs alongside a national MDA campaign targeting soil-transmitted helminthiasis and schistosomiasis. Two districts (Fresco and Koro) located in different areas of the country were selected for the pilot intervention. The study applied both quantitative and qualitative assessments. The quantitative aspect focused on campaign costs and outputs, using an “ingredient approach” for costing. The qualitative evaluation employed an empirical phenomenological approach

to analyse the campaign’s operational feasibility and appreciation by stakeholders. Evidence showed that MDA activities cost US\$ 0.66 per treated child and skin screening US\$ 0.62 per screened person, including medical products. Distribution of praziquantel exceeded coverage targets in both districts, whereas skin screening coverage varied by locality and age group. Both the service delivery team and the beneficiaries expressed appreciation for the integrated campaign. Integrating MDA and skin NTD screening proved operationally feasible in this context but was not associated with cost saving. Effective integration requires thorough joint planning, strengthened training and proper supervision (24,25).

Another example of integration across NTDs relates to joint programme reviews. In the course of 2024, several

countries in different WHO regions have been initiating or completing such exercises, with a focus on the entire NTD masterplan (mid-term or final assessments) or on homogeneous groups of diseases (e.g. vector-borne diseases or skin NTDs). These activities are an

occasion to bring together staff from multiple disease programmes as well as key partners, and entertain broader discussions on sustainability and future of NTD programmes; they often result in improved coordination, more robust synergies and stronger integration.

### 3.2.2 Coordination within the health sector

#### ***Multi-disease elimination***

More than 30 diseases, conditions and risk factors for health are globally targeted for elimination or eradication, of which 13 are NTDs (dracunculiasis and yaws for eradication; gambiense human African trypanosomiasis, leprosy and onchocerciasis for elimination; and Chagas disease, rhodesiense human African trypanosomiasis, lymphatic filariasis, rabies, schistosomiasis, soil-transmitted helminthiasis, trachoma and visceral leishmaniasis for elimination as a public health problem).

Globally, more than 100 countries have eliminated at least one of the 30+ target diseases, conditions and risk factors, with many on track to meet additional targets; among the 100, 54 countries had eliminated an NTD as of December 2024.

Since 2015, WHO has focused on developing standardized processes and harmonizing definitions of elimination and eradication across diseases. Such multi-disease elimination (MDE) approaches capitalize on the achievements recorded by leveraging shared platforms, strategies and operational frameworks to address multiple diseases simultaneously. Notably, in 2019 PAHO launched a multi-country, multi-disease framework (26) and a policy for elimination (27) to foster the development and implementation of national, cross-sectoral initiatives and plans in several countries in the Region of the Americas.

The MDE framework ensures consistency in assessment and validation criteria, facilitating joint strategies across diseases. By integrating MDE into primary health care, this approach aims to coordinate advocacy, streamline disease elimination efforts, enhance efficiency and foster equity. MDE promotes integrated service delivery, including MDA, immunization and nutritional assessments. Laboratory networks and integrated surveys, such as serosurveillance and impact assessments, play a critical role in monitoring progress. Joint advocacy efforts, for example on the occasion of global events such as World Neglected Tropical Diseases Day, can also elevate the visibility of elimination targets and garner international support.

Programmatic challenges include the fragmented landscape of disease-specific campaigns and financing, which has often strained health systems. In this regard, the Health Campaign Effectiveness Coalition, founded in December 2019, seeks to harmonize funding and strengthen collaboration among stakeholders. The Coalition also emphasizes reducing reliance on standalone campaigns by embedding elimination efforts within robust health systems (28), as articulated in the Collaborative Action Strategy for health campaign effectiveness, published in December 2023 (29).

In the area of NTDs, the MDE approach has been applied for several years. The integration of skin NTD services into health care systems exemplifies the practical application of the MDE approach, while the One Health approach underscores the interconnectedness of humans, animals, plants and the environment, addressing zoonotic and vector-borne diseases such as rabies and zoonotic leishmaniasis. And for over two decades, preventive chemotherapy has sought to address the burden of several NTDs through the coordinated implementation of mass treatment (30).

In perspective, encouraging countries to incorporate MDE into their NTD master plans is expected to ensure alignment with broader health sector development goals. Efforts to mobilize domestic funding, strengthen community-based surveillance, and address last-mile challenges reflect the emphasis on sustainability and ownership.

By expanding services and decreasing associated costs, the MDE approach represents a paradigm shift towards a people-centred, integrated strategy for achieving health equity and efficiency. Nevertheless, provision will have to be made for balancing disease-specific and multi-disease programmatic components based on country context, with the aim of ensuring the most effective delivery of health interventions and enabling accurate measurement of key indicators. By harmonizing terminologies, processes and systems, and leveraging shared platforms and multidisciplinary teams, the approach aligns with primary health care principles as well as with the road map targets for 2030, and is set to accelerate the achievement of global elimination targets.

### ***Stronger coordination within the health sector***

Countries are exploring opportunities to harness latent synergies and opportunities for coordination between programmes within the health sector. For example, throughout 2023 and 2024, the Polio Coordination Team in Madagascar worked closely with the MDA Directorate to deliver preventive chemotherapy for lymphatic filariasis and soil-transmitted helminthiasis alongside polio vaccines during their campaigns in response to a type 1 variant polio outbreak. The lymphatic filariasis MDA campaigns had specific targets, which were: (i) to achieve a therapeutic coverage rate (TCT) of over 65% in 59 districts treated with the combined diethylcarbamazine/albendazole (DA) regimen; (ii) to achieve a TCT of over 80% in 24 districts treated with the IDA regimen; and (iii) to identify all cases of morbidity related to lymphatic filariasis and treat all individuals

aged over 2 years in the targeted districts (31). The integrated polio-lymphatic filariasis campaign saw important improvements in treatment coverage for both programmes, and in detection of lymphatic filariasis morbidity: for example, during the last round of the 2023 campaign where 61 districts were targeted, only two had coverage lower than the 90-95% target for polio vaccination, and only three had coverage lower than the 65% target for MDA. Importantly, the estimated financial cost of implementing the MDA campaign without integration was US\$ 1 855 922, while the actual financial cost of integrating the MDA for the lymphatic filariasis and polio campaign was US\$ 424 719. The estimated financial savings from integration was US\$ 1 431 203. Incorporating lymphatic filariasis MDA into polio immunization campaigns improved both financial efficiency and effectiveness in meeting the set objectives (32).

## **3.2.3 Cross-sectoral coordination**

### ***Climate change and NTDs***

2024 saw the publication of a comprehensive scoping review on climate change, malaria and NTDs, undertaken by the WHO Task Team on Climate Change, Neglected Tropical Diseases and Malaria. It revealed significant gaps in the understanding of the potential impact of climate change on NTDs, and emphasized the need for further research. Reasonable numbers of studies exist only for dengue and chikungunya (181) and for leishmaniasis (53), while other NTDs are relatively understudied (33).

In general, the direct effects of climate change are known to be related to warmer temperatures (enabling mosquitoes to breed more rapidly, bite more frequently, and expand their range beyond the tropical and subtropical regions in which these diseases are endemic), and to changes in rainfall patterns, including more intense and irregular precipitation, which create conditions conducive to the spread of NTDs. For example, excessive rainfall and flooding create suitable breeding grounds for vectors including mosquitoes and snails, amplifying the transmission of diseases such as lymphatic filariasis, dengue, schistosomiasis and foodborne trematodiasis; nevertheless, higher temperatures or greater rainfall can, in some circumstances, cause the opposite effects to those described above. In addition, climate change can also have indirect effects on the epidemiology of NTDs; for example, flooding can exacerbate food and water insecurity, and limit access to health services (34).

Two areas of action are key in order to better tackle the relationship between climate change and NTDs. The first is the need for more research, to broaden our understanding of the mechanisms and patterns of impact, quantify and anticipate such impact, and identify measures that can mitigate and reverse it; this includes the need to develop innovative methodologies and approaches to investigation. The second area relates to making use of available evidence, although scarce, to inform policies and practices: cross-sectoral collaboration under the aegis of the One Health approach is, in WHO's view, a key step towards reducing the adverse impact of climate change on NTDs at the interface between humans, animals, plants and the environment. To do so, it is also important to ensure that NTDs are included in every broad global health strategic document addressing climate change.

### ***Global strategic plan for dengue and other Aedes-borne arboviruses***

In October 2024, WHO published the *Global strategic preparedness, readiness and response plan for dengue and other Aedes-borne arboviruses* (35). The plan is aligned with efforts to tackle mosquito-borne viruses with epidemic and pandemic potential in the context of the Global Arbovirus Initiative (36). It moves from the consideration that factors such as unplanned urbanization, poor water, sanitation and hygiene practices, climate change and international travel are facilitating the rapid geographical

spread of arboviral infections, including dengue and chikungunya. As such, the plan aims at reducing the associated burden of disease, suffering and deaths by fostering a global coordinated response outlining priority actions to control transmission and offering

recommendations to affected countries across various sectors, including disease surveillance, laboratory activities, vector control, community engagement, clinical management, and research and development.

### 3.2.4 Mainstreaming within national health systems

In alignment with the shifts in approaches proposed in the road map, WHO and NTD-affected countries have been working to mainstream NTD control activities within national health systems. Mainstreaming increases the likelihood that the management of NTD programmes benefits from broader health system investments within the health sector and is sustainable even with changes in donor landscape or country priorities. Mainstreaming also allows NTD programmes to leverage administrative processes, technological advances, best practices and lessons learnt that benefit health programmes in general.

This report makes mention of mainstreaming efforts in several aspects. The approaches to mainstreaming vary in order to fit the respective country-specific contexts and resource bases. However, a commonly recurring theme relates to the heterogeneity of information pathways and data management practices for NTD programmes. This situation creates uneven, complex information pathways easily beset by duplication, dispersion of efforts, related operational challenges and missed opportunities. In response to this challenge, the Global NTD Programme has prioritized collaboration with the WHO Routine Health Information System (RHIS) toolkit initiative (37) to develop programme-specific guidance in a phased approach. During the first phase, a general guidance document on RHIS and health facility data for NTDs for national programme managers and data clerks was developed, providing a robust digital framework for routine reporting on NTDs within national health management information systems (HMIS). Built on WHO guidelines and reporting standards, it supports the collection of standardized data at health facility level across 30+ diseases while allowing for adaptation to specific country needs. By facilitating integration with existing health systems, it enables efficient monitoring, control and elimination efforts (38). The module is interoperable with the GNARF (39), thereby enabling countries to readily report an aggregated summary on their progress tracking towards the road map targets. Additionally, selected disease-specific guidance documents that represent core interventions for case management (Buruli ulcer), preventive chemotherapy (schistosomiasis), zoonotic diseases (rabies) and integrated vector management (dengue and malaria bioassay) are being developed and digitized for inclusion in the DHIS2 toolkit.

This approach to mainstreaming NTD data into national health information systems was facilitated by training workshops conducted in Ghana and Mali (September–October 2024). Further orientation and sensitization of implementing partners on this approach to mainstreaming of NTD data was conducted at the NNN 2024 conference workshop entitled *Progress towards integrated digital data systems for NTDs: a framework based on WHO and country experiences* (Kuala Lumpur, Malaysia, 1–3 October 2024) (40). Participating national NTD data managers from Angola, Kenya and Liberia shared their respective experiences with mainstreaming NTD data into the existing HMIS using DHIS2. All the shared country experiences reaffirmed the felt need for mainstreaming NTD data into national health information systems as the essential approach for sustainability, improving efficiencies and patients' equitable access to all aspects of treatment, care and support. In alignment with the proposed road map shifts, NTD-affected countries and implementing partners should accelerate efforts towards actively mainstreaming NTD data management into existing national health information systems.

#### ***Progress on qualitative aspects of the road map***

The M&E framework made explicit an innovative approach to measuring progress towards the established 2030 targets, including both quantitative and qualitative methodologies (41). The quantitative methodology centres on analysis of global data collected on selected disease-specific indicators as published in the indicator compendium (42). The qualitative assessment reviews the state of play, relevance, efficiency and effectiveness of priority programme actions for both disease-specific aspects (Pillar I) and cross-cutting aspects (Pillar II). The qualitative methodology is based on the implementation of the Gap Assessment Tool (GAT) which had been specifically designed to combine input from several sources in a standardized and rigorous way: global and country online public consultations, and both disease-specific and dimension-specific focus group discussions (see Box 3.2 of the *Global report on neglected tropical diseases 2024* (43)). The online public consultations ensured input from a wide range of individuals and

organizations, offering cultural, geographical and experiential diversity, globally. Input from the country surveys generated important programmatic information. The focus group discussions provided consensus assessments on the status and progress of individual NTDs and on 11 cross-cutting dimensions (across all NTDs). Three dimensions are classified as having a technical component (comprising foundational knowledge requirements); five as having a strategy and service delivery component (comprising essential aspects of NTD programmes); and three as having an enablers component (informing action). Of these, the standardized GAT was implemented in 2023–2024 for the four priority dimensions first flagged in 2019–2020; namely, Diagnostics, Monitoring and Evaluation, Access & Logistics, and Advocacy & Funding (the remaining seven dimensions were not reviewed in 2023–2024 due to lack of funding).

The 2023–2024 results are presented below with an emphasis on cross-cutting aspects: input from the online public consultations for each disease was considered during disease-specific focus group discussions to review progress in the four priority dimensions using standardized criteria, updating the heatmap colours and providing an updated disease status and recommended actions. In the next step, the four dimension-specific focus group discussions considered common issues relevant to each of the four dimensions across all diseases. After results were completed and approved by the GAT Steering Committee and the Working Group on Monitoring, Evaluation and Research of the Strategic and Technical Advisory Group for Neglected Tropical Diseases, results were shared throughout the WHO network and countries in each region. In addition, results were included in (i) a peer-reviewed scientific publication (44) and (ii) a WHO-wide guidance manual to inform future GAT implementation (in preparation). Results for the initially flagged four priority dimensions, for all NTDs, generated an updated heat map (Fig. 3.1), specific updates on current status and recommended actions for each disease, and cross-cutting recommendations. Once funding has been secured, the remaining seven dimensions, for all NTDs, are expected to be completed.

## ***Dimension-specific observations and recommendations***

### *Diagnostics*

1. Access to diagnostics that assess multiple NTDs can facilitate cross-cutting integration of programmatic activities while improving cost-effectiveness. This work needs to be aligned with programmes'

requirements to effectively support operations. This implies following the use-cases outlined in existing target product profiles; adopting platforms that can be easily integrated into large-scale operations at primary care level; and updating operational guidance for programme managers to use these new tools.

2. Diagnostics, for both humans and animals, can enable programmes to assess the presence of zoonotic disease reservoirs as well as the risk of reinfection in humans cost-effectively. Monitoring of zoonotic diseases could be integrated into other NTD programmes. In addition to financial and technical support, operational guidance is necessary to guide their use as part of integrated activities across multiple NTD programmes.
3. Established tests for non-NTDs may provide cost-effective and time-efficient opportunities for the development of integrated tests (e.g. in the case of skin diseases not listed as NTDs). Careful consideration should be given to the potential impacts of such developments on existing supply chains and manufacturing costs, to ensure their affordability and accessibility for all programmes.
4. Programmes should strive to coordinate their technical efforts to secure necessary resources for diagnostics. Mentioned strategies included emphasizing the health and economic benefits of integrated approaches and promoting more holistic advocacy narratives and frameworks (e.g. One Health). Early engagement with multiple potential manufacturers is useful to ensure long-term supply.
5. NTD programmes can enhance their diagnostic capacity by mainstreaming related operations within the national health system. This can provide greater access to laboratories and resources, as well as enhance programmes' reach in peripheral areas. Country-level assessments are required to identify the most appropriate public services for integration, and programmatic guidance on integration procedures is needed.
6. Regional (supra-national) laboratories should be established or strengthened, as they could help programmes to enhance their surge capacity, standardize provision across national and regional laboratories, expand access to facilities and enhance quality assurance.
7. Collaboration with non-health sectors can enhance programmes' diagnostic capacity through access to additional laboratories and resources; generate additional data for monitoring and evaluation, and planning (e.g. vector control); and grant access to resources to support the development of new or

Fig. 3.1. Updated heat map for the four priority dimensions of the road map

| Dimensions                    |                                             |             |                         |                                    |                                                   |                           |                      |                                     |                                            |
|-------------------------------|---------------------------------------------|-------------|-------------------------|------------------------------------|---------------------------------------------------|---------------------------|----------------------|-------------------------------------|--------------------------------------------|
|                               | Scientific understanding                    | Diagnostics | Effective interventions | Operational and normative guidance | Planning, governance and programme implementation | Monitoring and evaluation | Access and logistics | Health infrastructure and workforce |                                            |
| Technical                     | Dracunculiasis                              | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     | Eradication                                |
|                               | Yaws                                        | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Human African trypanosomiasis (gambiose)    | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Leprosy                                     | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
| Strategy and service delivery | Onchocerciasis                              | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     | Elimination (interruption of transmission) |
|                               | Chagas disease                              | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Human African trypanosomiasis (rhodesiense) | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Leishmaniasis (visceral)                    | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
| Enablers                      | Lymphatic filariasis                        | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     | Elimination as a public health problem     |
|                               | Rabies                                      | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Schistosomiasis                             | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Soil-transmitted helminthiasis              | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
| Control                       | Trachoma                                    | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     | Control                                    |
|                               | Buruli ulcer                                | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Dengue                                      | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Chikungunya                                 | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Echinococcosis                              | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Foodborne trematodiasis                     | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Leishmaniasis (cutaneous)                   | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Mycetoma                                    | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Chromoblastomycosis and other deep mycoses  | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Noma                                        | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Scabies and other ectoparasitoses           | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Tungiasis                                   | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Snakebite envenoming                        | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |
|                               | Taeniasis and cysticercosis                 | ■           |                         |                                    |                                                   | ■                         | ■                    |                                     |                                            |

improved tests. Relevant sectors include Education, Water and Sanitation, Environment, Veterinary and Agriculture. Engagement with the Education sector, in particular for higher education programmes and pre-service training, is valuable to help build in-country technical capacity for NTD programmes across all healthcare levels.

### *Monitoring and evaluation (M&E)*

1. The implementation of joint M&E activities, such as mapping, impact assessments or surveillance, across NTDs programmes or in collaboration with other programmes within the health system or other sectors (e.g. veterinary and agriculture) can widen programmes' access to material and human resources and increase coverage among target populations, enhancing their efficiency.
2. Timely access to up-to-date, comprehensive M&E data is essential to assess programmatic progress at the country and regional levels, plan country-level programmatic activities, and inform international technical and policy debates. Experts supported the use, refinement and expansion of existing NTD integrated data platforms; the development of new systems, when required; and the harmonization of reporting formats across the sector as well as of M&E data systems for NTDs with those used by the public health system. Significant technical support is required. The use of emerging digital tools, such as AI, may help.
3. The integration of M&E operations could be further supported by ensuring that information from NTD programmes, countries, public health services and other sectors can be easily merged. Key data policies and measures recommended included the harmonization of M&E information requirements across NTD programmes as well as with other sectors and the establishment of data-sharing agreements with other sectors and among countries, to monitor cross-border transmission.
4. The development of integrated approaches to M&E requires careful planning to maximize its potential benefits. Operational research initiatives can inform these developments, including assessing past and existing integration initiatives; gathering evidence of the tangible benefits accrued through such efforts; assessing the suitability of integrated approaches to address bottlenecks in M&E across NTDs; and assessing data compatibility between data systems.
5. Additional M&E guidance is required to address emerging challenges affecting NTDs as they progress towards the road map targets. This includes linking initiatives producing post-elimination surveillance guidelines with those

concerning the development of integrated diagnostics, to ensure their compatibility; developing standardized decision-making processes that mark when programmes move from control to elimination, and to eradication; developing guidance for the design and implementation of M&E activities in fragile, conflict-affected and vulnerable settings; and developing or updating M&E guidance for NTDs lacking suitable diagnostics.

### *Access and logistics*

1. Good forecasting requires access to a variety of data sources. Recommended measures include improving access to health and population data, establishing feedback mechanisms across programmatic areas within NTD programmes (e.g. finances and M&E), developing a common platform for supply chain management and forecasting across NTD programmes, assessing the accuracy of existing forecasting tools to inform related improvements, and adapting validated forecasting tools from NTD and non-NTD programmes.
2. Integrating distribution and delivery operations within the public health system may increase programmes' coverage, and save costs, through access to national distribution centers and local warehouses, for example. The integration of management information systems used by NTD programmes with those of the public health sector could also enable more efficient administration of health products.
3. Targeted financial support for access and logistics operations is considered necessary. Advocacy activities should highlight the role that management systems play in supporting programme activities and thus the need to strengthen such capacity to achieve the road map targets, address new threats and support post-elimination activities. At the country level, advocating with governments to exempt programmes from paying taxes over the importation of medicines and other health products was considered key. Community engagement, in turn, was considered useful to generate demand-based estimates of treatment and intervention needs. Advocacy activities targeting NTD programmes were recommended to raise awareness about the benefits of integrating access and logistics operations across NTD programmes or with the public health system, as was the importance of including experts in access and logistics in the development of guidance for other programmatic areas in providing input on the practical and financial feasibility of recommended measures.

4. Access and logistics operations require an adequate supply of high-quality health products that is sustained over time. Experts recommended that programmes coordinate with global stakeholders, including manufacturers, donors and multilateral organizations, to expand the network of suppliers for key products as well as to establish standard requirements for medicines and other health products procured outside donation schemes, to ensure access to multiple reliable suppliers.
  5. Experts considered it beneficial to seek integrating field operations for zoonotic NTDs with other relevant sectors, such as Veterinary and Agriculture, to enhance programmes' capacity to address the transmission risk posed by animals, access to resources and the impact of interventions. They also recommended coordinating with country and global stakeholders (e.g. WOA and FAO) to advocate for access to treatments and health products for both humans and animals.
4. Advocacy strategies to support intersectoral collaboration include showcasing the contributions of NTD programmes to child and maternal health to support mainstreaming programmatic activities within the public health system; positioning NTDs' R&D agenda within existing initiatives to enhance pandemic preparedness and response across regions; showcasing how programmatic activities can serve as a platform for research and innovation; and promoting the inclusion of NTDs into debates on the impacts of climate change and urbanization to facilitate involvement in future related initiatives.

### *Advocacy and funding*

1. Strategic alignment and coordination of advocacy efforts is necessary to enhance their effectiveness. Comprehensive assessments identifying funding gaps and priorities across programmes operating at the country, regional and global levels, accompanied by mapping exercises of key stakeholders (funders and policy-makers), appear necessary to this effect. Such evidence can likewise inform the development of operational guidance on the design and implementation of advocacy efforts supporting integrated initiatives as well as guide advocacy planning for likely future scenarios.
2. To be effective, NTD advocacy campaigns require supporting organizational structures. Experts recommended mainstreaming and improving reporting mechanisms on funding and expenditure to enhance transparency, enable cost-benefit analysis and highlight funding gaps; providing additional support to region-level initiatives for cross-country coordination and information-sharing initiatives, and greater engagement by WHO headquarters with regional initiatives; providing technical support to build local communications capacity and marketing expertise; and encouraging programmes to monitor epidemiological trends to seek opportunities for new partnerships. Including advocacy plans within national NTD master plans can be a useful mechanism to align advocacy activities along current key programmatic priorities and operations.
3. Recommended approaches included using a "multiple disease elimination" message to advocate

### *Cross-cutting observations and recommendations*

The dimension-level focus group discussions showed important commonalities concerning the conditions and steps required to support the implementation of cross-cutting recommendations in order to support advancement of the global NTD community towards attaining the 2030 road map targets. These call for:

1. **Targeted advocacy for cross-cutting initiatives.** Advocacy and funding underpins the implementation of cross-cutting solutions, which require close coordination across multiple stakeholders (NTD programmes, public health services and non-health sectors). Advocacy is also required to mobilize funders and institutional backers nationally and globally to shift the funding landscape to be more receptive towards integrated initiatives.
2. **WHO leadership for coordinated multi-level action.** Recommendations highlighted the importance of closer strategic alignment between initiatives at the country, regional and global levels, chiefly through WHO engagement. High-level initiatives can foster international cooperation and governments' political commitment, which can facilitate the implementation of cross-cutting initiatives at the local level.

3. **A more systemic approach to planning and implementation.** Cross-cutting solutions demand close coordination between programmatic areas from within NTD programmes themselves (e.g. finance, logistics, M&E), which are often perceived to work in a siloed manner. Access to complementary information and experts' input can help to develop feasible and efficient implementation plans.
  4. **Up-to-date programmatic guidance.** Initiatives integrating multiple NTD programmes, public health systems or other sectors are still uncommon. To foster their adoption in the health sector, programmatic guidance should be developed to inform programme managers about the strategies and procedures they should adopt for their design and implementation as well as the circumstances in which they are recommended.
  5. **Access to technical support.** Cross-cutting recommendations highlighted the need for greater investments in building local technical capacity. There is a clear need for setting modern data systems in place, harmonizing reporting systems, and adopting compatible indicators for NTD programmes as well as for the public health system and other sectors. Trained staff to process and generate high-quality information is essential.
  6. **Addressing sustainability.** Sustainability remains an underlying concern across all dimensions. Cross-cutting recommendations aimed at widening access to resources and improving programmes' efficiency should be examined against a backdrop characterized by limited access to long-term funding and often constrained to certain components, such as treatment. Significant concerns have been raised concerning how to maintain key operations over time, especially as NTDs reach elimination.
  7. **Establishing the role and contributions of NTD programmes for other sectors.** While there is agreement that intersectoral collaboration is required, significant efforts are still needed to develop a clear case for the inclusion of NTDs in intersectoral partnerships. Evidence can be gathered on the tangible benefits programmes bring to other sectors, either in terms of impact, access to resources and stakeholders, or efficiency gains. Outlining clear roles and responsibilities in potential partnerships can support these efforts.
- Further details on the key factors that influenced the inter-assessment changes for these four dimensions between 2019–2020 and 2023–2024 are summarized in Figs. 3.2–3.5.

Fig. 3.2. Diagnostics

| NTDs by road map target                                                                         | Year of assessment |      | Inter-assessment trend |
|-------------------------------------------------------------------------------------------------|--------------------|------|------------------------|
|                                                                                                 | 2019               | 2023 |                        |
| Eradication                                                                                     |                    |      |                        |
| Dracunculiasis                                                                                  | ■                  | ■    |                        |
| Yaws                                                                                            | ■                  | ■    | ↓                      |
| Elimination (interruption of transmission)                                                      |                    |      |                        |
| Human African trypanosomiasis (gambiense)                                                       | ■                  | ■    |                        |
| Leprosy                                                                                         | ■                  | ■    |                        |
| Onchocerciasis                                                                                  | ■                  | ■    | ↑                      |
| Elimination as a public health problem                                                          |                    |      |                        |
| Chagas disease                                                                                  | ■                  | ■    |                        |
| Human African trypanosomiasis (rhodesiense)                                                     | ■                  | ■    |                        |
| Leishmaniasis (visceral)                                                                        | ■                  | ■    | ↑                      |
| Lymphatic filariasis                                                                            | ■                  | ■    |                        |
| Rabies                                                                                          | ■                  | ■    |                        |
| Schistosomiasis                                                                                 | ■                  | ■    | ↑                      |
| Soil-transmitted helminthiasis                                                                  | ■                  | ■    |                        |
| Trachoma                                                                                        | ■                  | ■    |                        |
| Control                                                                                         |                    |      |                        |
| Buruli ulcer                                                                                    | ■                  | ■    |                        |
| Chikungunya                                                                                     | ■                  | ■    |                        |
| Dengue                                                                                          | ■                  | ■    |                        |
| Echinococcosis                                                                                  | ■                  | ■    |                        |
| Foodborne trematodiasis                                                                         | ■                  | ■    |                        |
| Leishmaniasis (cutaneous)                                                                       | ■                  | ■    | ↓                      |
| Mycetoma                                                                                        | ■                  | ■    |                        |
| Chromoblastomycosis and other deep mycoses                                                      | ■                  | ■    |                        |
| Noma*                                                                                           |                    | ■    |                        |
| Scabies and other ectoparasitoses                                                               | ■                  | ■    |                        |
| Tungiasis*                                                                                      |                    | ■    |                        |
| Snakebite envenoming                                                                            | ■                  | ■    | ↓                      |
| Taeniasis and cysticercosis                                                                     | ■                  | ■    |                        |
| Legend:                                                                                         |                    |      |                        |
| ■ No hindrances towards targets                                                                 |                    |      |                        |
| ■ ■ ■ Critical action required to reach target                                                  |                    |      |                        |
| * Tungiasis and noma were not part of the 2019 consultation. No baseline rankings are available |                    |      |                        |

## Key facts

## Positive drivers

- Recent technical developments in diagnostic tools.
- Preparation of TPPs by the DTAG that align technical developments with programmatic needs.

## Negative drivers

- Slow progress in the development of new or improved diagnostic tools.

## Salient conditions impacting programme action

- Ongoing work on TPPs has helped to provide guidance for the development of new tests or improvement of existing ones.
- Many technical challenges limit the programmatic use of diagnostics: many programmes highlighted that sensitivity and specificity requirements are yet to be achieved.
- Development of tests for large-scale field deployment is pending.
- There are multiple initiatives to develop new tools, using new technologies or approaches (e.g. multiplex). These efforts still require validation and, often, additional funding.
- Programmes often lack access to diagnostics at the scale required due to limited resources. Field deployment is affected by poor infrastructure, lack of technical expertise and costs.

Fig. 3.3. Monitoring and evaluation

## Key facts

| NTDs by road map target                                                                         | Year of assessment |      | Inter-assessment trend |
|-------------------------------------------------------------------------------------------------|--------------------|------|------------------------|
|                                                                                                 | 2019               | 2023 |                        |
| Eradication                                                                                     |                    |      |                        |
| Dracunculiasis                                                                                  | ■                  | ■    | ↑                      |
| Yaws                                                                                            | ■                  | ■    |                        |
| Elimination (interruption of transmission)                                                      |                    |      |                        |
| Human African trypanosomiasis (gambiense)                                                       | ■                  | ■    | ↑                      |
| Leprosy                                                                                         | ■                  | ■    | ↓                      |
| Onchocerciasis                                                                                  | ■                  | ■    |                        |
| Elimination as a public health problem                                                          |                    |      |                        |
| Chagas disease                                                                                  | ■                  | ■    | ↓                      |
| Human African trypanosomiasis (rhodesiense)                                                     | ■                  | ■    | ↑                      |
| Leishmaniasis (visceral)                                                                        | ■                  | ■    |                        |
| Lymphatic filariasis                                                                            | ■                  | ■    | ↑                      |
| Rabies                                                                                          | ■                  | ■    |                        |
| Schistosomiasis                                                                                 | ■                  | ■    |                        |
| Soil-transmitted helminthiasis                                                                  | ■                  | ■    | ↓                      |
| Trachoma                                                                                        | ■                  | ■    |                        |
| Control                                                                                         |                    |      |                        |
| Buruli ulcer                                                                                    | ■                  | ■    | ↑                      |
| Chikungunya                                                                                     | ■                  | ■    |                        |
| Dengue                                                                                          | ■                  | ■    |                        |
| Echinococcosis                                                                                  | ■                  | ■    |                        |
| Foodborne trematodiasis                                                                         | ■                  | ■    |                        |
| Leishmaniasis (cutaneous)                                                                       | ■                  | ■    | ↑                      |
| Mycetoma                                                                                        | ■                  | ■    |                        |
| Chromoblastomycosis and other deep mycoses                                                      | ■                  | ■    |                        |
| Noma*                                                                                           |                    | ■    |                        |
| Scabies and other ectoparasitoses                                                               | ■                  | ■    |                        |
| Tungiasis*                                                                                      |                    | ■    |                        |
| Snakebite envenoming                                                                            | ■                  | ■    |                        |
| Taeniasis and cysticercosis                                                                     | ■                  | ■    |                        |
| Legend:                                                                                         |                    |      |                        |
| ■ No hindrances towards targets                                                                 |                    |      |                        |
| ■ ■ ■ Critical action required to reach target                                                  |                    |      |                        |
| * Tungiasis and noma were not part of the 2019 consultation. No baseline rankings are available |                    |      |                        |

## Positive drivers

- Release of new or updated M&E technical guidance, with revised methodologies and process.
- Improvements in reporting (quantity, frequency, or quality).

## Negative drivers

- Some programmes have limited technical or material capacity to follow M&E guidelines and regularly gather comprehensive good-quality detailed data.

## Salient conditions impacting programme action

- There are multiple M&E initiatives on frameworks and guidelines (e.g. post-elimination surveillance). Institutional and material support is needed to complete this work.
- Not all country programmes report required information at the frequency desired. Data can be incomplete too. Concerns exist concerning the quality of the data reported.
- Existing surveillance systems require strengthening: the quality of surveillance tends to vary across countries and also within countries. Lack of adequate surveillance among animals can impact progress for zoonotic NTDs.
- Irregular implementation of M&E activities: programmes often face limited material and technical capacity, affecting the full implementation of M&E activities. The need for regular monitoring operations can place further stress on existing resources.

Fig. 3.4. Access and logistics

| NTDs by road map target                                                                         | Year of assessment |      | Inter-assessment trend |
|-------------------------------------------------------------------------------------------------|--------------------|------|------------------------|
|                                                                                                 | 2019               | 2023 |                        |
| Eradication                                                                                     |                    |      |                        |
| Dracunculiasis                                                                                  | ■                  | ■    |                        |
| Yaws                                                                                            | ■                  | ■    | ↓                      |
| Elimination (interruption of transmission)                                                      |                    |      |                        |
| Human African trypanosomiasis (gambiense)                                                       | ■                  | ■    |                        |
| Leprosy                                                                                         | ■                  | ■    |                        |
| Onchocerciasis                                                                                  | ■                  | ■    |                        |
| Elimination as a public health problem                                                          |                    |      |                        |
| Chagas disease                                                                                  | ■                  | ■    |                        |
| Human African trypanosomiasis (rhodesiense)                                                     | ■                  | ■    | ↓                      |
| Leishmaniasis (visceral)                                                                        | ■                  | ■    |                        |
| Lymphatic filariasis                                                                            | ■                  | ■    |                        |
| Rabies                                                                                          | ■                  | ■    |                        |
| Schistosomiasis                                                                                 | ■                  | ■    | ↓                      |
| Soil-transmitted helminthiasis                                                                  | ■                  | ■    | ↑                      |
| Trachoma                                                                                        | ■                  | ■    | ↓                      |
| Control                                                                                         |                    |      |                        |
| Buruli ulcer                                                                                    | ■                  | ■    | ↓                      |
| Chikungunya                                                                                     | ■                  | ■    | ↓                      |
| Dengue                                                                                          | ■                  | ■    | ↓                      |
| Echinococcosis                                                                                  | ■                  | ■    |                        |
| Foodborne trematodiasis                                                                         | ■                  | ■    | ↓                      |
| Leishmaniasis (cutaneous)                                                                       | ■                  | ■    |                        |
| Mycetoma                                                                                        | ■                  | ■    |                        |
| Chromoblastomycosis and other deep mycoses                                                      | ■                  | ■    |                        |
| Noma*                                                                                           |                    | ■    |                        |
| Scabies and other ectoparasitoses                                                               | ■                  | ■    | ↓                      |
| Tungiasis*                                                                                      |                    | ■    |                        |
| Snakebite envenoming                                                                            | ■                  | ■    |                        |
| Taeniasis and cysticercosis                                                                     | ■                  | ■    |                        |
| Legend:                                                                                         |                    |      |                        |
| ■ No hindrances towards targets                                                                 |                    |      |                        |
| ■ ■ ■ Critical action required to reach target                                                  |                    |      |                        |
| * Tungiasis and noma were not part of the 2019 consultation. No baseline rankings are available |                    |      |                        |

## Key facts

## Positive drivers

- Medicine donation for mebendazole extended to pre-SAC and WRA.
- Ivermectin has become available as a prequalified generic medicine.

## Negative drivers

- Impact of COVID-19 on national health systems' priorities and global supply chains.
- Limited availability of some essential health products, either due to increasing demand and funding or production issues.
- Use of more detailed assessment criteria, compared with the 2019 assessment.

## Salient conditions impacting programme action

- Most programmes reported having access to significant medicine donations. However, long-term support and availability of alternative manufacturers remained a concern.
- Limited access to secondary medicines and complementary products or services (e.g. diagnostics, assistive devices).
- Programmes often lack access to up-to-date high-quality information on the availability and requirements for treatments, supplies and equipment, and human resources.
- Access to all essential health products and services in-country is challenging due to poor infrastructure, geographical isolation, natural hazards and security concerns during humanitarian emergencies.

Fig. 3.5. Advocacy and funding

## Key facts

## Positive drivers

- Some improvement has been attained concerning domestic support for NTD programmes, albeit not to the extent needed.

## Negative drivers

- COVID-19 shifted the funding landscape towards other priorities.
- Progress towards elimination affected support for some NTDs, which are no longer perceived as a public health priority.
- Limited response to past demands for funding increases. Funding for NTDs has not improved substantially despite the need to achieve the 2030 targets.

## Salient conditions impacting programme action

- Limited domestic funding: national programmes tend to rely heavily on international funding for their activities.
- There is strength in the existing donation agreements, but programmes need access to a significant number of varied resources to fully support and monitor their interventions. Funding agreements rarely cover all programmatic requirements.
- Current advocacy efforts appear to be mainly led by international organizations. The key challenge is ensuring those initiatives are effective in mobilizing resources at the level required by programmes.
- Support is often for short-term projects or for specific topics or activities. Accessing long-term comprehensive funding is difficult.

| NTDs by road map target                                                                         | Year of assessment |      | Inter-assessment trend |
|-------------------------------------------------------------------------------------------------|--------------------|------|------------------------|
|                                                                                                 | 2019               | 2023 |                        |
| Eradication                                                                                     |                    |      |                        |
| Dracunculiasis                                                                                  | ■                  | ■    |                        |
| Yaws                                                                                            | ■                  | ■    |                        |
| Elimination (interruption of transmission)                                                      |                    |      |                        |
| Human African trypanosomiasis (gambiense)                                                       | ■                  | ■    |                        |
| Leprosy                                                                                         | ■                  | ■    | ↓                      |
| Onchocerciasis                                                                                  | ■                  | ■    |                        |
| Elimination as a public health problem                                                          |                    |      |                        |
| Chagas disease                                                                                  | ■                  | ■    |                        |
| Human African trypanosomiasis (rhodesiense)                                                     | ■                  | ■    | ↑                      |
| Leishmaniasis (visceral)                                                                        | ■                  | ■    |                        |
| Lymphatic filariasis                                                                            | ■                  | ■    | ↑                      |
| Rabies                                                                                          | ■                  | ■    | ↓                      |
| Schistosomiasis                                                                                 | ■                  | ■    | ↓                      |
| Soil-transmitted helminthiasis                                                                  | ■                  | ■    |                        |
| Trachoma                                                                                        | ■                  | ■    |                        |
| Control                                                                                         |                    |      |                        |
| Buruli ulcer                                                                                    | ■                  | ■    | ↓                      |
| Dengue                                                                                          | ■                  | ■    |                        |
| Chikungunya                                                                                     | ■                  | ■    |                        |
| Echinococcosis                                                                                  | ■                  | ■    |                        |
| Foodborne trematodiasis                                                                         | ■                  | ■    |                        |
| Leishmaniasis - Cutaneous                                                                       | ■                  | ■    |                        |
| Mycetoma                                                                                        | ■                  | ■    |                        |
| Chromoblastomycosis and other deep mycoses                                                      | ■                  | ■    |                        |
| Noma*                                                                                           |                    | ■    |                        |
| Scabies and other ectoparasitoses                                                               | ■                  | ■    |                        |
| Tungiasis*                                                                                      |                    | ■    |                        |
| Snakebite envenoming                                                                            | ■                  | ■    | ↓                      |
| Taeniasis and cysticercosis                                                                     | ■                  | ■    |                        |
| Legend:                                                                                         |                    |      |                        |
| ■ No hindrances towards targets                                                                 |                    |      |                        |
| ■ ■ ■ Critical action required to reach target                                                  |                    |      |                        |
| * Tungiasis and noma were not part of the 2019 consultation. No baseline rankings are available |                    |      |                        |

DTAG: Diagnostic Technical Advisory Group for Neglected Tropical Diseases; M&E: monitoring and evaluation; NTD: neglected tropical disease; pre-SAC: preschool-aged children; TPP: target product profile; WRA: women of reproductive age.

### 3.2.5 Gender, equity and human rights

In response to resolution WHA76.16 of 30 May 2023 on *The health of Indigenous Peoples* (45), WHO has continued to participate in intersectoral engagements on implementing the *System-wide action plan for ensuring a coherent approach to achieving the ends of the United Nations Declaration on the Rights of Indigenous Peoples* (46,47). Indigenous Peoples are highly vulnerable to toxic chemicals and often suffer impacts to their health and to the environment. Pesticides and insecticides for vector control are being applied close to or in geographical areas where Indigenous Peoples live without their free, prior and informed consent. In response to calls for action by Member States, in 2024 the Global NTD Programme contributed to the works of the FAO/WHO Joint Meeting on Pesticide Management aimed at establishing a roadmap for future approaches to pesticide management. A joint working group for the International Code of Conduct on Pesticide Management was established during the 29th Session of the FAO Committee on Agriculture as a voluntary instrument that provides standards of conduct for all public and private entities in or associated with the management of pesticides and insecticides. It aims to identify potential gaps in the Code of Conduct responding to a call by the United Nations Permanent Forum on Indigenous Issues. On 26 November 2024, the 79th session of the UN General Assembly urged Member States to implement resolution WHA76.16 and invited the WHO Director-General to take into account this resolution while developing a global plan of action for the health of Indigenous Peoples for the consideration of the Seventy-ninth World Health Assembly in 2026 (48). These efforts mark a strong starting point for an ambitious new year of work aimed at improving pesticide and insecticide management globally.

Following her appointment on 1 November 2023, the “Special Rapporteur on the elimination of discrimination against persons affected by leprosy (Hansen’s disease) and their family members”, Dr Beatriz Miranda-Galarza, outlined her vision and proposed workplan in her first report, published on 19 April 2024 and presented to the 56th session of the United Nations Human Rights Council (Geneva, 21 June 2024) (49). Five priorities for the period 2024–2026 were outlined, including (i) facilitating the inclusion of rights-based approaches into care systems; (ii) placing a stronger focus on women, children and individuals with disabilities to close existing gaps in services; (iii) ensuring that grassroots and patients’ associations have more political voice and that archives, oral histories and cultural artifacts related to persons affected by leprosy are adequately preserved; (iv) addressing the legal barriers and economic hardships faced by persons affected by leprosy and their family members; and (v) assessing the impact of additional

vulnerabilities produced by climate change and conflict on the epidemiology of leprosy and the life of affected people. In the report, the Special Rapporteur also highlighted the three approaches that she intends to apply to her mandate, namely the ethics of care, the culture of listening and the need for closer cooperation among all actors resulting in co-production of policies that address the needs of persons affected by leprosy.

The second report of the Special Rapporteur was published on 15 July 2024 and presented to the Third Committee of the 79th session of the UN General Assembly (New York, 4 November 2024) (49). The report emphasized the urgency of integrating leprosy into global discussions on human rights-based care and support aligned with the SDGs (50). It underscored the significant workload borne by persons and families in caring for affected relatives and called for the recognition of the shared responsibilities by communities, States and the private sector. Yet gaps persist in the representation of caregivers and receivers of care and for support in the development and implementation of laws, policies and programmes related to care and support, partly stemming from historical misconceptions of leprosy care and support as merely charitable. Valuable insights from the leprosy field on self-care are often overlooked due to the limited participation of affected persons in decision-making processes.

Additionally, the resolution (E/RES/2024/4) on promoting care and support systems for social development approved in February 2024 by the Commission for Social Development of the Economic and Social Council urged Member States “to ensure the creation of enabling environments for promoting care and support systems for social development and implement all measures necessary to ensure the well-being and rights of care recipients and caregivers, to recognize and redistribute care work among individuals, as well as families, communities, the private sector and States, and to contribute to the achievement of gender equality and the empowerment of women.” (51). As a consequence, the Special Rapporteur has called on the United Nations agencies, bodies and international organizations to rethink the definition of care and support, taking into consideration the demands, needs and experiences of persons affected by leprosy and their families. Progress made by persons affected by leprosy and their families in areas such as self-care offer valuable lessons applicable to several other health programmes, including those against NTD programmes.

In statements made to both the Human Rights Council and the General Assembly, WHO has expressed support and appreciation for the Special Rapporteur’s vision and priorities, and has expressed the wish that the same rights-based approach applied to leprosy should

be extended to all the NTDs, the reason being that the challenges faced by people affected by leprosy are very similar to those experienced by people affected by any NTD. The same consideration also applies to the difficulties faced by any NTD public health programmes delivering prevention, treatment and care services.

In order to facilitate these processes and address the prevailing tendency for limited explorations of gender, equity and human rights factors in the complex sociocultural factors that influence patients' experience

of NTDs, WHO is working to strengthen approaches to monitoring and addressing health inequities during the implementation of programme activities. An informal technical consultation on gender, equity and human rights for NTD programmes is in process, the outcomes of which will identify priority programmatic actions for responsive approaches and systematic protections towards fulfilling the human right to health when implementing interventions against NTDs.

## 3.3 Pillar 3 – Change operating models and culture to facilitate country ownership

### 3.3.1 Sustainability: planning for neglected tropical diseases programmes – country perspectives, experiences and learning

#### **Introduction**

For decades, governments, WHO, donors, pharmaceutical companies and partners have invested in advancing the control, elimination and eradication of NTDs globally, with emphasis on high-burden countries. However, sustainable, effective coverage of NTD services requires long-term commitment from national and local officials, buttressed by strategic contributions from development partners, with the aim of collaboratively planning, implementing and monitoring investments in NTD services.

*Ending the neglect to attain the Sustainable Development Goals: a sustainability framework for action against neglected tropical diseases 2021–2030* (the sustainability framework) (52) was launched as a companion document to the road map in 2021. This framework defined sustainability as “the ability of national health systems to maintain or increase effective coverage of interventions against NTDs to achieve the outcomes, targets and milestones identified in the road map”. It emphasizes the need for greater country ownership, financing and robust health systems to achieve sustainable NTD control and elimination.

#### **Sustainability plan development**

Since 2021, numerous WHO Member States have undertaken efforts to operationalize the sustainability framework through the development and implementation of national sustainability plans. As

of 2024, 14 African countries have collaborated with donors, technical partners and stakeholders to complete this process building upon the efforts of their respective national NTD programmes. Notably, the time required to develop and politically validate these sustainability plans ranged from 8 to 16 months.

The development of NTD sustainability plans in these countries was led by the respective national governments, and influenced by the overall political environment including elections, as well as existing and emerging national policies and priorities. With donor support, implementing partners provided technical assistance for governments to design a multisectoral approach to reviewing current country landscapes and developing politically-validated sustainability plans that reflect national priorities and targets for NTD services. National NTD programmes and government leadership set the parameters, including which sectors to engage to address relevant endemic diseases, service delivery platforms, targets, timelines and mechanisms to monitor the implementation of the sustainability plans through existing governance bodies and national information systems, including beyond the health sector. All sustainability plans placed a strong emphasis on policy reform, strengthening planning and financing, and incorporating NTD programme functions into cross-cutting systems within and beyond the health sector.

The process of nationally-led efforts to develop sustainability plans increased the visibility and needs of NTD services across government services and systems, clarified the relevance and roles of other sectors

and highlighted “quick fixes” through government multisectoral engagement. A recurring finding during this process was that various parts of government had never been systematically nor formally approached to consider and address routine needs for NTD services.

***Progress towards implementation of sustainability plan priorities***

As countries developed sustainability plans, implementing partners and WHO country offices offered to collaborate on priority areas identified by governments. NTD programmes and their leadership primarily prioritized coordination as a way to improve governance, including expanding NTD engagement in various multisectoral coordination mechanisms. This

was complemented by efforts to update policies and guidelines, strengthening inclusion of NTDs into national planning and financing processes, as well as updating national HMIS, medicines supply chain mechanisms and the health workforce to meet the needs of NTD services. Where NTD programmes prioritized support for a disease-specific programme, the emphasis was on mainstreaming to leverage the use of existing systems and service delivery platforms. Most governments required an extensive multisectoral effort to problem solving, testing, planning and implementation. Allowing sufficient time for this process resulted in greater leverage and optimization of existing national systems, services and underutilized expertise in countries. Examples of efforts taken by countries to address sustainability are shown in Table 3.1.

**Table 3.1. Examples of multisectoral efforts emerging from the development and implementation of sustainability plans for national NTD programmes**

| Work across ministries to strengthen workforces' skills and capacity within and outside the health sector to sustainably deliver NTDs services led to: |                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Country                                                                                                                                                | Integration and mainstreaming effort                                                                                                                                                                                                                                                                                                      |
| Côte d'Ivoire                                                                                                                                          | Formalize integration of NTD modules into the training curricula of colleges of nurses (INFAS) to strengthen health workforce capacity to address NTDs.                                                                                                                                                                                   |
| Ethiopia                                                                                                                                               | Review and revise national insurance packages to incorporate prevention and curative NTD services.                                                                                                                                                                                                                                        |
| Mali                                                                                                                                                   | Complete inclusion of NTDs modules into school health promotion materials developed by the Ministry of Education to enhance teachers and students' knowledge on NTD prevention and risk factors.                                                                                                                                          |
| Senegal                                                                                                                                                | Leverage the development of the Ministry of Health's e-learning platform to include NTDs in the induction training for health staff. Integrate NTDs into district routine services and monitoring tools to position NTDs into the national planning activities and integrated health sector performance review process at district level. |
| Togo                                                                                                                                                   | Develop, formalize and implement an interministerial document between the Ministry of Health and the Ministry of Education that stipulates the roles and responsibilities of each actor for a sustainable school-based deworming programme.                                                                                               |
| Uganda                                                                                                                                                 | Ensure supply chain mainstreaming, district-level financing and domestic funding to optimize use of existing resources and platforms within the national system.                                                                                                                                                                          |
| United Republic of Tanzania                                                                                                                            | Incorporate NTD services and functions into district-level financing structures to increase ownership and resource mobilization for NTDs services at subnational level.                                                                                                                                                                   |

***Sustainability plans: mid-term review***

In 2024, five of the 14 countries reached the halfway point of their respective sustainability plans and conducted mid-term reviews. While countries used various approaches highlighted in the road map's sustainability framework, all used a multi-stage review process. This included technical consultations to assess progress and identify challenges followed by strategic engagement for high-level government staff to discuss recommendations and mobilize support from decision makers. Progress was reviewed against the original sustainability plan targets, indicators and timelines to identify successes, gaps and challenges. National

stakeholders reviewed the extent to which the objectives included in the sustainability plans or the associated milestones were achieved and identified key actors/ sectors missing. With the aim to strengthen the overall plan, they identified new opportunities to leverage within the national health system, formulated and/or prioritized recommendations that maintained gains and accelerated progress, adjusted strategies to further leverage changes and opportunities in the national context, and remobilized leadership around the purpose and goal of the sustainability plan.

The respective governments documented a combination of qualitative and quantitative progress against the milestones set in the sustainability plan, as follows:

- All reported that various parts of government were engaged to help clarify how national services and systems should contribute to strengthening NTD programmes. For example, Côte d'Ivoire, Ethiopia, Ghana and Senegal began incorporating morbidity management and disability prevention services in national health insurance policies and universal health care packages. These processes are leading to a broader revision of national standard treatment guidelines and codification of healthcare services to incorporate all NTDs services into national health insurance payment frameworks.
- Improvements in multisectoral coordination by engaging new platforms or other sectors in NTD coordination mechanisms. For example, Ghana's NTD intra-country coordination committees has led engagement with the division of institutional care, the community health division and the health regions to incorporate NTDs into the nurses' home visit register to foster inclusion of NTDs into primary health care structures.
- Further incorporating NTD data into national HMIS. All the 14 countries are working to incorporate NTD data into existing DHIS2 platforms that are in use and being expanded to strengthen routine reporting and surveillance.
- Identification and development of strategies for incorporating NTDs into existing health budgeting and financing processes to enhance domestic resource mobilization and resource allocation for NTDs. For example, the United Republic of Tanzania implemented district-level financing which resulted in increased funding for NTDs.
- **Data quality impacts decision-making.** Decision-makers at all levels are dependent on the availability of timely, high-quality data to make appropriate and informed decisions for resource allocation and service delivery for NTDs.
- **Policies and related planning efforts need to be inclusive and cascaded to district-level functions.** This applied to the operationalization of sustainability plan priorities, the prioritization of functions to integrate into existing service delivery platforms and the implementation of cross-cutting functions. In the context of decentralization, reinforcing commitment and contribution of local authorities is critical to enhance local response to NTDs.
- **Strong political will and leadership are essential for the success of cross-sectoral collaboration in building sustainability for NTD programmes.** Incorporating NTD services into national systems requires strong ministerial intermediaries, senior-level leadership from the health ministry and the appropriate guiding documents.
- **To effectively engage policy-makers, advocacy efforts must have a clear purpose and target audience to achieve impact.** Advocacy was most effective when the desired outcome was clear, when the appropriate decision-makers were identified and when their data needs or resource inputs were clarified with them.
- **Before requesting additional funding, optimize existing systems first.** Finance ministry and health ministry leaders are striving to optimize existing resources to achieve maximum impact and strengthen existing services. Significant progress can be made through this strategy and is received favourably from the national leadership.

### **| What have NTD programmes learnt?**

Mid-term reviews of sustainability plans have highlighted several cross-cutting lessons from the experience of the NTD programmes and the leadership of health ministries:

- **Multisectoral coordination requires shared goals, joint planning, implementation and routine monitoring to be effective.** Mainstreaming NTD services and functions must have a clear purpose built on a common agenda that benefits all relevant stakeholders in leveraging national systems.
- **Formalized agreements are necessary both within and beyond the health sector to clarify roles and responsibilities and ensure accountability.** "Informal common understanding" leaves NTD service delivery vulnerable to leadership changes and staff turnover.

### **| Rethinking the partnership approach**

Experience has shown that donors and development partners engaging with governments to achieve sustainable NTD services welcome changes in work culture and an evolution in the approach to supporting national NTD programmes, in alignment with Pillar III of the road map, which calls for greater country ownership. Generally speaking, implementing the road map's sustainability framework is expected to promote health system strengthening as a key approach to achieving sustainable services. In turn, this favourable environment is expected to enable NTD programme managers and national health leadership to leverage and optimize national systems to provide NTD services sustainably. For

this process to be successful, it is critical that donors and implementing partners:

- avoid undermining efforts to use national systems to deliver NTD services;
- align with national policies and priorities to optimize use of national systems and resources;
- maximize reforms by supporting disease-agnostic or “all-NTD” approaches that strengthen core aspects of national NTD programmes in the context of the national health system pillars; and

- allow sufficient time and support to clearly identify the root problems and parts of government that can provide effective and sustainable solutions.

Much has changed in the health sector over the past 20 years as a result of several investments by donors and stakeholders. It is essential that national governments identify and harness latent capacities within their health system to enable the sustainable delivery of all NTD services within their respective contexts.

### 3.3.2 Global financing for NTDs, 2018–2023

Tracking global investment in NTDs presents significant challenges. Currently, WHO recognizes as NTDs 21 distinct diseases and disease groups, each with its own financing sources and structures. Unlike tuberculosis, HIV/AIDS, and malaria, which are financed through The Global Fund, or immunization efforts supported by Gavi, the Vaccine Alliance, NTDs do not benefit from a centralized, pooled financing mechanism. As a result, financing data must be gathered from multiple sources, many of which are not publicly accessible.

Given that NTDs primarily affect vulnerable populations in low- and middle-income countries, they remain a target of development assistance. Countries endemic for NTDs often rely heavily on external aid, making international development assistance a critical indicator of overall financing trends.

The Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD) serves as a highly representative source for analysing global development aid. This system records “the individual commitments of Official Development Assistance (ODA) and Official Aid (OA) reported by Members of the OECD Development Assistance Committee (DAC) and by multilateral institutions” (53). The list of DAC members and partners can be found on the OECD CRS website (54).

This section examines OECD CRS data to assess financing trends between 2018 and 2023, a turbulent period marked by the COVID-19 pandemic. Although it includes funds committed, disbursed or received, it does not reflect pledges not yet linked to a specific project.

Further details on data extraction and categorization methods are available in Annex 1.

#### General trend

In 2018, the total funding provided by DAC members and participating multilateral institutions for projects with NTDs as the primary target was US\$ 440 million. When

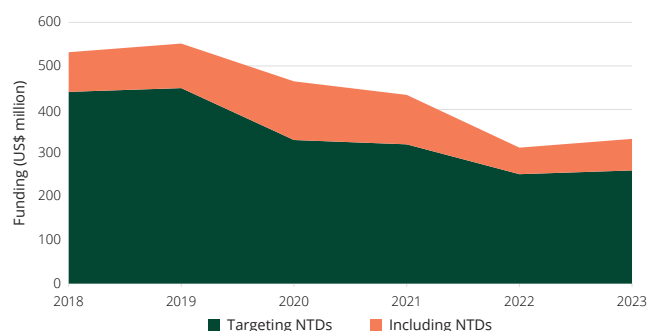
including projects that list NTDs among their beneficiary disease programmes, the funding for NTD-related projects was approximately US\$ 531 million.

For projects that include NTDs as part of a broader programme, it is challenging to determine the exact share of funding allocated to NTDs. Therefore, the following analysis focuses only on projects where NTDs are the primary target.

Between 2018 and 2023, the trend has been generally decreasing, with an average annual rate of 9%. By 2023, funding for projects targeting NTDs had reduced to US\$ 260 million, representing a 41% decrease compared with 2018.

Investment in projects addressing NTDs continues to reflect a combination of significant contributions from major donors alongside numerous smaller-scale investments. The number of donor countries and multilateral organizations supporting NTD projects ranged from 26 in 2018 to 20 in 2023.

**Fig. 3.6. OECD funding for NTD-related projects, 2018–2023**



Data source: OECD/CRS

Note:

- “Targeting NTDs” refers to projects where NTDs are the main diseases targeted.
- “Including NTDs” refers to projects with broader objectives, where one or several NTDs are among the diseases addressed.
- Funding includes amounts that are committed, disbursed or received – without overlap – from all DAC members, along with voluntary reports from other partners.

## Main donors

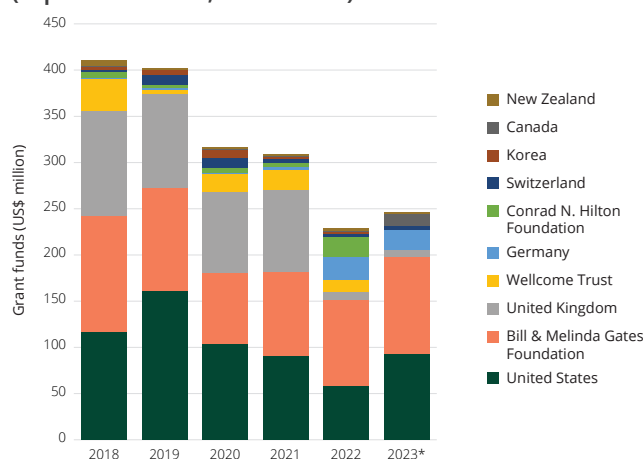
Between 2018 and 2021, three key donors – the Government of the United States of America, the Bill & Melinda Gates Foundation (Gates Foundation) and the Government of the United Kingdom of Great Britain and Northern Ireland – collectively accounted for more than 80% of total annual funding. However, in 2022, contributions from the Government of the United Kingdom declined by 91% and from the Government of the United States by 50%. In the same year, Germany significantly increased its support from US\$ 3 million in 2021 to US\$ 25 million in 2022, representing 10% of total ODA funding for NTDs that year. Similarly, the Conrad N. Hilton Foundation quadrupled its funding during this period to US\$ 21 million. Despite these efforts, overall funding for NTD projects in 2022 declined by 21% compared with 2021. In 2023, signs of renewed engagement from the United States government in funding NTD initiatives led to a 3% increase in total funding compared with 2022.

As of 2023, the financing landscape was largely shaped by the contribution from the Gates Foundation and the Government of the United States, which together accounted for 76% of the total, reflecting a trend characterized by an increasing polarization of NTD funding from a small number of major donors (Fig. 3.7).

## Funding by disease

With regard to the distribution of funding by disease, for the period 2018–2023, half of the funding was invested in projects covering more than one disease. Among the projects targeting one specific NTD, lymphatic filariasis, trachoma, dengue, human African trypanosomiasis,

**Fig. 3.7. Top donors funding NTD-related projects (reported to CRS, 2018–2023)**



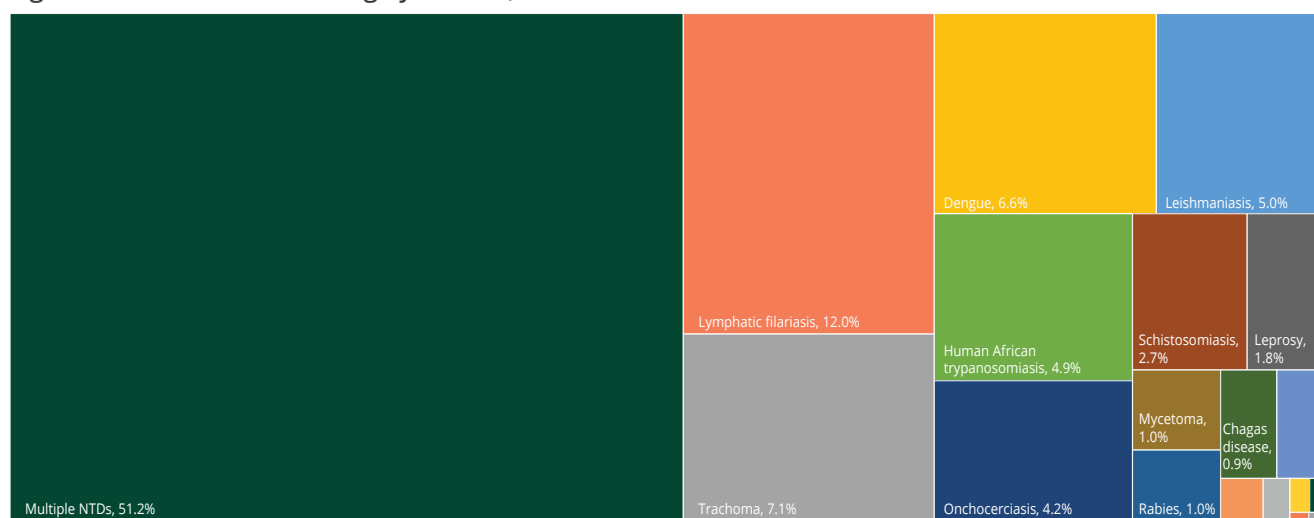
Note: \* Data on Gates Foundation grant funds for 2023 are missing from the CRS database. To ensure completeness, grants for NTDs in 2023, as reported on the Foundation's website, have been incorporated into this graph.

leishmaniasis and onchocerciasis drew more attention than other conditions (Fig. 3.8).

## Funding by activity area

From 2018 to 2023, 60% of funding supported health sector interventions in countries, 26% was allocated to research and development, including innovation, 10% was dedicated to building global and regional networks for advocacy, technical support and coordination, and 4% was used for interventions beyond the health sector. However, this last category excludes projects that benefit populations affected by NTDs but do not have NTDs as their primary focus (Fig. 3.9).

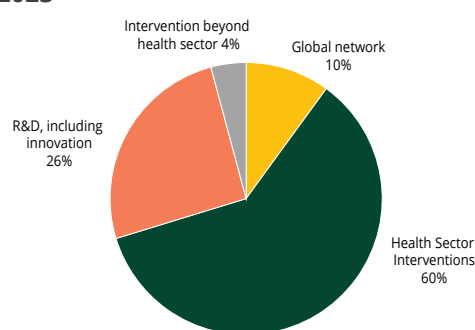
**Fig. 3.8. Distribution of funding by disease, 2018–2023**



Data source: OECD/CRS

Note: Due to lack of information, the distribution of Gates Foundation funding by disease in 2023 is not included.

**Fig. 3.9. Distribution of funding by activity area, 2018–2023**



Data source: OECD/CRS

Note: Due to lack of information, the distribution of Gates Foundation funding by area in 2023 is not included.

As funding for NTDs was largely driven by the Government of the United States, the Gates Foundation and the Government of the United Kingdom, a closer look at their funding focus areas will give a more gradual picture to understand funding landscape change for NTDs.

Fig. 3.10 shows that nearly half of Gates Foundation funding was allocated to R&D, whereas the Governments of the United Kingdom and of the United States primarily funded interventions within the health sector. This suggests that the sharp decline in funding from both of these governments between 2018 and 2023 has primarily reduced the resources available for implementing health interventions.

## Limitations

The analysis presented here has some limitations:

- It focuses only on financial contributions and excludes other types of support (e.g. commodities, medicines).
- This document presents information reported in the OECD CRS system, which includes data

from DAC members and other partners. While reporting by DAC members is mandatory, participation by partners is voluntary. As a result, data consistency, particularly from voluntary partners, may vary.

- The CRS system does not provide coding for the specific disease purpose of the funding, making it difficult to extract NTD-specific data.
- It does not include domestic funding allocations made by national governments in support of NTD activities in their own countries.
- It does not include pledges not yet linked to a specific project.

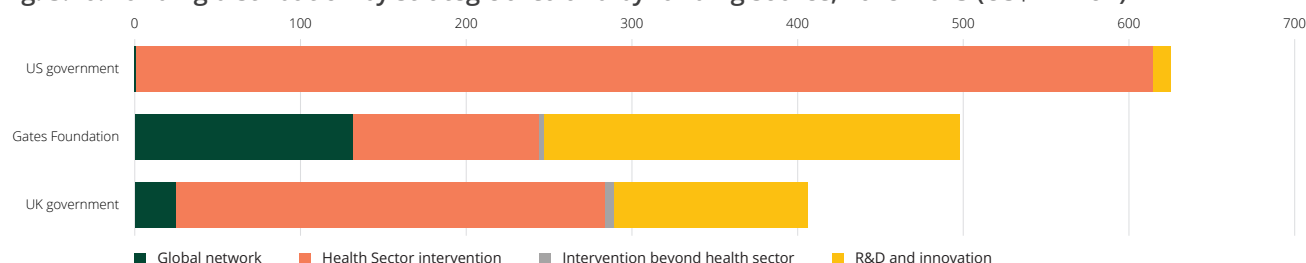
## Conclusions

Despite the above constraints, data clearly indicate a long-term and consolidated declining trend in allocations made by a set of key donors in support of a wide range of projects targeting NTDs, as well as a growing dependence of contributions made by a smaller number of donors.

Clearly, the sharp decline in funding – a 41% drop from 2018 to 2023 – threatens progress in controlling and eliminating NTDs and signals an urgent need for renewed commitment and strategic investment, while the polarization around a small number of donors increases the risk of overreliance and dependency.

To mitigate these risks, global health stakeholders – including governments, donors and multilateral organizations – must prioritize sustained, predictable and diversified funding for NTD programmes. Expanding investment in health sector interventions, research and innovation, and global advocacy networks is essential to closing funding gaps and ensuring continued progress. Strengthening multi-sectoral partnerships and diversifying funding sources will be key to achieving long-term impact.

**Fig. 3.10. Funding distribution by strategic area and by funding source, 2018–2023 (US\$ million)**



Data source: OECD/CRS

R&D: research and development; UK government: Government of the United Kingdom; US government: Government of the United States.

Note: The distribution of Gates Foundation funding across strategic areas in 2023 was based on the overall share of funding allocated to each area during the 2018–2022 period. These shares were used to estimate 2023 allocations.

# References

1. R&D for the overlooked: restoring hope, one research question at a time. In: WHO/Control of Neglected Tropical Diseases [website]. Geneva: World Health Organization (<https://www.who.int/teams/control-of-neglected-tropical-diseases/interventions/research/r-and-d-blueprint>, accessed 20 June 2025).
2. An R&D blueprint for neglected tropical diseases. Geneva: World Health Organization; 2024 (<https://www.who.int/publications/m/item/an-rd-blueprint-for-neglected-tropical-diseases>, accessed 20 June 2025).
3. Guideline: alternative mass drug administration regimens to eliminate lymphatic filariasis. Geneva: World Health Organization; 2017 (<https://iris.who.int/handle/10665/259381>).
4. Guidelines for the treatment of human African trypanosomiasis. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/378083>).
5. WHO guideline on preventive chemotherapy for public health control of strongyloidiasis. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/378257>).
6. Assessing schistosomiasis and soil-transmitted helminthiasis control programmes: monitoring and evaluation framework. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/379352>).
7. WHO interim guidelines for the treatment of gambiense human African trypanosomiasis. Geneva: World Health Organization; 2019 (<https://iris.who.int/handle/10665/326178>).
8. World Health Organization & WHO Expert Committee on the Control and Surveillance of Human African Trypanosomiasis (2013: Geneva, Switzerland). Control and surveillance of human African trypanosomiasis: report of a WHO expert committee. Geneva: World Health Organization; 2013 (<https://iris.who.int/handle/10665/95732>).
9. New guidance to accelerate elimination of schistosomiasis and intestinal helminthiasis. In: WHO/News [website]. Geneva: World Health Organization; 2024 (<https://www.who.int/news/item/31-10-2024-new-guidance-to-accelerate-elimination-of-schistosomiasis-and-intestinal-helminthiasis>, accessed 20 June 2025).
10. Regional Strategic Framework for sustaining, accelerating and innovating to end neglected tropical diseases in the South-East Asia Region, 2024–2030. New Delhi: WHO Regional Office for South-East Asia; 2024 (<https://iris.who.int/handle/10665/376636>).
11. Strategic framework for the elimination of visceral leishmaniasis as a public health problem in eastern Africa 2023–2030. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/376833>).
12. Operational guidelines for the elimination of human fascioliasis as a public health problem. Washington (DC): Pan American Health Organization; 2023 (<https://iris.paho.org/handle/10665.2/58950>).
13. Strategic framework for the elimination of visceral leishmaniasis as a public health problem in eastern Africa 2023–2030: web annex: the Nairobi Declaration. Geneva: World Health Organization; 2024 (<https://doi.org/10.2471/B09041>).
14. Ninth invitation to manufacturers of medicinal products for treatment of neglected tropical diseases, to submit an expression of interest (EOI) for product evaluation to the WHO prequalification unit [guidance document]. Geneva: World Health Organization; 2024 ([https://extranet.who.int/prequal/sites/default/files/document\\_files/Annex\\_EOI-NTD-v9\\_15Oct2024\\_minor%20revision.pdf](https://extranet.who.int/prequal/sites/default/files/document_files/Annex_EOI-NTD-v9_15Oct2024_minor%20revision.pdf), accessed 20 June 2025).
15. Global appeal 2024 to end stigma and discrimination against persons affected by leprosy. In: Sasakawa Leprosy (Hansen's disease) Initiative [website]. Akasaka: Sasakawa Health Foundation; 2024 (<https://sasakawaleprosyinitiative.org/latest-updates/initiative-news/4916>, accessed 20 June 2025).
16. Gavi to boost access to life-saving human rabies vaccines in over 50 countries: Gavi, WHO and UAR. In: WHO/News [website]. Geneva: World Health Organization; 2024 (<https://www.who.int/news/item/13-06-2024-gavi-to-boost-access-to-life-saving-rabies-vaccines-human-in-over-50-countries-gavi-who-and-uar>, accessed 20 June 2025).
17. Partnership established to advance WHO's road map for neglected tropical diseases 2021–2030. In: WHO/News [website]. Geneva: World Health Organization; 2024 (<https://www.who.int/news/item/11-12-2024-partnership-established-to-advance-who-s-road-map-for-neglected-tropical-diseases-2021-2030>, accessed 20 June 2025).

18. International high-level meeting on dracunculiasis eradication. In: WHO/News [website]. Geneva: World Health Organization; 2024 (<https://www.who.int/news-room/events/detail/2024/09/16/default-calendar/international-high-level-meeting-on-dracunculiasis-eradication>, accessed 20 June 2025).
19. Three central African countries commit to global eradication of Guinea-worm disease. In: WHO/News [website]. Geneva: World Health Organization; 2024 (<https://www.who.int/news/item/17-09-2024-three-central-african-countries-commit-to-global-eradication-of-guinea-worm-disease>, accessed 20 June 2025).
20. Apulia G7 Leaders' Communiqué. In: The G7 Summit [website]. (<https://www.g7italy.it/en/summit/>, accessed 20 June 2020).
21. G20 Rio de Janeiro Leaders' Declaration. In: G20 Brasil 2024 [website]. (<https://www.gov.br/g20/en/documents/g20-rio-de-janeiro-leaders-declaration>, accessed 20 June 2025).
22. Courses. In: WHO Academy [website]. Lyon: World Health Organization (<https://whoacademy.org>, accessed 20 June 2025).
23. Huang X, Kone, BV, Koffi YD, Koffi AP, Camara, PBE, Assessing the integration of skin screening into a mass drug administration campaign against neglected tropical diseases: A cross-sectional observational study from two districts in Côte d'Ivoire, 2023, *Int J Infect Dis*. <https://doi.org/10.1016/j.ijid.2024.107177>.
24. Moving towards integrated service delivery for NTDs. In: WHO/News [website]. Geneva: World Health Organization; 2024 (<https://www.who.int/news/item/14-07-2024-moving-towards-integrated-service-delivery-for-ntds>, accessed 20 June 2025).
25. The 17th FAO/WHO Joint Meeting addressed global issues and triggered the reviewing of the International Code of Conduct on Pesticide Management. In: WHO/News [website]. Geneva: World Health Organization; 2024 (<https://www.who.int/news/item/30-10-2024-the-17th-fao-who-joint-meeting-addressed-global-issues-and-triggered-the-reviewing-of-the-international-code-of-conduct-on-pesticide-management>, accessed 20 June 2025).
26. Integrated, sustainable framework for the elimination of communicable diseases in the Americas. Washington (DC): Pan American Health Organization; 2019 (<https://iris.paho.org/handle/10665.2/51106>, accessed 20 June 2025).
27. A policy for an integrated approach to communicable diseases in the Americas. Washington (DC): PAHO Disease Elimination Initiative; 2019 (<https://www.paho.org/en/documents/paho-disease-elimination-initiative-policy-integrated-sustainable-approach-communicable>, accessed 20 June 2025).
28. Coalition Charter. In: Health Campaign Effectiveness Coalition [website]. Decatur (GA): The Task Force for Global Health; 2024 (<https://campaigneffectiveness.org>, accessed 20 June 2025).
29. Collaborative Action Strategy (CAS) for health campaign effectiveness. Decatur (GA): The Task Force for Global Health; 2023 ([https://campaigneffectiveness.org/wp-content/uploads/2024/01/Collaborative-Action-Strategy-for-HCE\\_Final.pdf](https://campaigneffectiveness.org/wp-content/uploads/2024/01/Collaborative-Action-Strategy-for-HCE_Final.pdf), accessed 20 June 2025).
30. Preventive chemotherapy in human helminthiasis. Coordinated use of anthelmintic drugs in control interventions: a manual for health professionals and programme managers. Geneva: World Health Organization 2006 (<https://iris.who.int/handle/10665/43545>).
31. Protecting against polio and lymphatic filariasis in Madagascar. In: WHO/Polio Global Eradication Initiative [website]. Geneva: World Health Organization; 2024 (<https://polioeradication.org/news/protecting-against-polio-and-lymphatic-filariasis-in-madagascar/>, accessed 20 June 2025).
32. Mandrosovololona V, Rasoamihanta P, Djawe K, Mupfasoni D, Andriamino B, Rakotonavalona R, et al. Implementation of mass drug administration for lymphatic filariasis in Madagascar: the progress, effectiveness and financial savings of integrating into an existing polio campaign. *Res Rep Trop Med*. 2024;15:123–147. <https://pubmed.ncbi.nlm.nih.gov/39741701/>.
33. Klepac P, Hsieh JL, Ducker CL, Assoum M, Booth M, Byrne I, et al. Climate change, malaria and neglected tropical diseases: a scoping review. *Trans R Soc Trop Med Hyg*. 2024;118(9):561–579. <https://doi.org/10.1093/trstmh/trae026>.
34. Climate change and NTDs: a perfect storm [editorial]. *Lancet Glob Health*. 2025;13(2):E172 ([https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(25\)00014-2/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(25)00014-2/fulltext), accessed 20 June 2025).
35. Global strategic preparedness, readiness and response plan for dengue and other Aedes-borne arboviruses. Geneva: World Health Organization; 2024 (<https://www.who.int/publications/m/item/global-strategic-preparedness--readiness-and-response-plan-for-dengue-and-other-aedes-borne-arboviruses>, accessed 20 June 2025).

36. Global arbovirus initiative: preparing for the next pandemic by tackling mosquito-borne viruses with epidemic and pandemic potential. Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/376630>).
37. WHO toolkit for routine health information systems data. In: WHO/Health service data. [website]. Geneva: World Health Organization (<https://www.who.int/data/data-collection-tools/health-service-data/toolkit-for-routine-health-information-system-data/modules>, accessed 20 June 2025).
38. Neglected tropical diseases. In: DHIS2 Developer Portal [website] Oslo: University of Oslo; 2025 (<https://docs.dhis2.org/en/implement/health/neglected-tropical-diseases/ntd-overarching-module/overview.html>, accessed 20 June 2025).
39. Global NTD Annual Reporting Form (Data, platforms and tools). In: WHO/Control of Neglected Tropical Diseases [website]. Geneva: World Health Organization; 2025 (<https://www.who.int/teams/control-of-neglected-tropical-diseases/data-platforms-and-tools>, accessed 20 June 2025).
40. NNN conference 2024. In: Neglected Tropical Disease NGO Network [website]; 2024 (<https://www.ntd-ngonetwork.org/nnn-conference-2024>, accessed 20 June 2025).
41. Ending the neglect to attain the sustainable development goals: a framework for monitoring and evaluating progress of the road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2021 (<https://iris.who.int/handle/10665/341313>).
42. A compendium of indicators for monitoring and evaluating progress of the road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2022 (<https://iris.who.int/handle/10665/365511>).
43. Implementation of the 2023–2024 gap assessment to update the road map [Box 3.2]. In: Global report on neglected tropical diseases 2024. Geneva: World Health Organization; 2024:45 (<https://iris.who.int/handle/10665/376657>).
44. Donadeu M, Gyorkos TW, Horstick O, Lammie P, Mwingira UJ, Omondi WP, et al. Tracking progress along the WHO neglected tropical diseases road map to 2030: a guide to the gap assessment tool (GAT) and results from the 2023–2024 assessment. *PLoS Negl Trop Dis*. 2025;19(7):e0013194. <https://doi.org/10.1371/journal.pntd.0013194>.
45. Resolution WHA76.16. The health of Indigenous Peoples. In: Seventy-sixth World Health Assembly. Geneva, 21–30 May 2023. Resolutions and decisions, annexes. Geneva: World Health Organization; 2023:43–46 (WHA76/2023/REC/1; [https://apps.who.int/gb/ebwha/pdf\\_files/WHA76-REC1/A76\\_REC1\\_Interactive\\_en.pdf#page=1](https://apps.who.int/gb/ebwha/pdf_files/WHA76-REC1/A76_REC1_Interactive_en.pdf#page=1), accessed 20 June 2025).
46. System-wide action plan on the rights of Indigenous Peoples. New York (NY): United Nations; 2015 ([https://www.un.org/esa/socdev/unpfii/documents/2016/Docs-updates/SWAP\\_Indigenous\\_Peoples\\_WEB.pdf](https://www.un.org/esa/socdev/unpfii/documents/2016/Docs-updates/SWAP_Indigenous_Peoples_WEB.pdf), accessed 20 June 2025).
47. System-wide action plan for ensuring a coherent approach to achieving the ends of the United Nations Declaration on the Rights of Indigenous Peoples. New York (NY): United Nations Economic and Social Council; 2016 (<https://docs.un.org/en/E/C.19/2016/5>, accessed 20 June 2025).
48. Rights of Indigenous Peoples: report of the Third Committee [A/79/455]. New York (NY); 2024 (<https://docs.un.org/en/A/79/455>, accessed 20 June 2025).
49. Annual thematic reports: Special Rapporteur on discrimination against persons with leprosy (Hansen's disease). In: United Nations Human Rights Office of the High Commissioner [website]. New York (NY); 2024 (<https://www.ohchr.org/en/special-procedures/sr-leprosy/annual-thematic-reports>, accessed 20 June 2025).
50. United Nations Seventy-ninth session Item 71 (b) of the provisional agenda. Promotion and protection of human rights: human rights questions, including alternative approaches for improving the effective enjoyment of human rights and fundamental freedoms. 15 July 2024. A/79/152. <https://docs.un.org/en/A/79/152>.
51. Promoting care and support systems for social development: resolution adopted by the Economic and Social Council. In: United Nations Digital Library [website]. New York (NY): United Nations; 2024 (<https://digitallibrary.un.org/record/4054737?v=pdf>, accessed 20 June 2025).
52. Ending the neglect to attain the sustainable development goals: a sustainability framework for action against neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2021(<https://iris.who.int/handle/10665/338886>).
53. Creditor Reporting System. In: OECD/Publications [website]. Paris: Organisation for Economic Co-operation and Development ([https://www.oecd.org/en/publications/creditor-reporting-system\\_22180907.html](https://www.oecd.org/en/publications/creditor-reporting-system_22180907.html), accessed 20 June 2025).
54. Members and partners. In: Development Assistance Committee (DAC) [website]. Paris: Organisation for Economic Co-operation and Development (<https://www.oecd.org/en/about/committees/development-assistance-committee.html>, accessed 20 June 2025).

## 4. Regional and country progress

### 4.1 African Region

#### Progress

- In 2023, the number of people requiring NTD interventions in the African Region was 519 million, 57 million fewer people than in 2022, and 95 million less than in 2010, equivalent to a decrease of 16% over the period 2010–2023 (Fig. 4.1).
- In 2023, 290 million people received treatment for one or more NTDs through preventive chemotherapy interventions, for a regional coverage of 56%.
- As of end 2024, 20 countries in the African Region had eliminated at least one NTD. One country (Togo) had eliminated four NTDs, two countries (Benin and Ghana) had eliminated three NTDs and three countries (Côte d'Ivoire, Malawi and Uganda) had eliminated two diseases; 14 countries (Burkina Faso, Cameroon, the Central African Republic, Chad, the Democratic Republic of the Congo, Equatorial Guinea, Gambia, Kenya, Mali, Mauritania, Niger, Nigeria, Rwanda and Senegal) had eliminated one NTD. In 2024, Chad

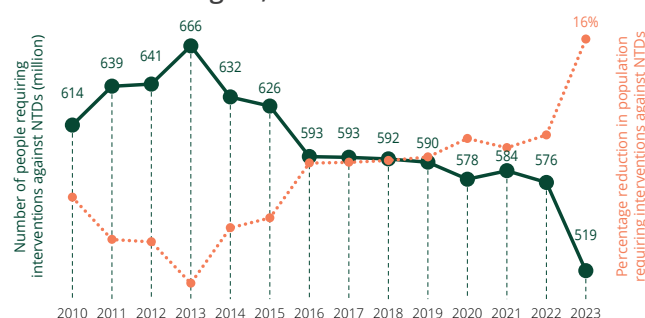
was validated for eliminating human African trypanosomiasis as a public health problem.

- A growing number of countries have included the integrated skin NTD approach in their NTD masterplans as one of the cross-cutting approaches.
- Free diagnosis and treatment services for Buruli ulcer, leprosy, visceral leishmaniasis and yaws have been scaled up in several countries through a decentralized approach, enabling high cure rates to be achieved.
- Several countries are implementing leprosy contact tracing and chemoprophylaxis with single-dose rifampicin.
- Several countries have eliminated more than one NTD, showing strong national leadership and ownership of the NTD elimination agenda, and effective partnership across health, education and WASH sectors –all critical components for sustainable NTD elimination.

#### Challenges

- Heavy reliance on unstable and unpredictable external financing for NTD programmes, often leading to irregular implementation of interventions.
- Limited integration of NTD programmes into national health systems, notably in routine surveillance platforms and universal health coverage packages.
- Limited cross-border collaboration, leading to irregular synchronization of NTD interventions in border regions, including disease surveillance and information-sharing.
- Persistent difficulties in reaching remote, conflict-affected, hard-to-reach areas and migrant populations.

**Fig. 4.1. Number of people and percentage reduction in population requiring interventions against NTDs in the African Region, 2010–2023**



Data source: WHO/Global Health Observatory

- Major lack of investments in sectors beyond health for complementing NTD interventions.
- Emergence of areas with persistent and recrudescence incidence or prevalence of NTDs in some countries delaying the achievement of elimination targets.

## Priorities

- Secure political commitment and country ownership by reinforcing leadership action and coordination among health, education, agriculture and WASH sectors to support disease prevention, and by promoting One Health for NTD elimination.
- Enact regional financing and resource mobilization efforts in support of NTD interventions through economic blocs (e.g. ECOWAS, SADC, EAC) and in alignment with broader health and development agendas, by sharing lessons learnt and strengthening advocacy for increased African domestic investments in NTD elimination.
- Leverage regional philanthropic initiatives and development banks (e.g. African Development Bank) for sustainable financing of NTD investments and programmes as part of universal health coverage packages.
- Enhance regional pharmaceutical production capacity for high-quality affordable NTD medicines to reduce dependency on international drug donations.
- Support WHO collaborating centres in the region as capacity-building hubs for Member States, promote regional research initiatives for innovative NTD solutions and facilitate the exchange of best practices among NTD programmes.
- Enhance NTD data systems by strengthening core components for integration and mainstreaming into existing routine health information systems as well as mechanisms for disease surveillance and supply chain for NTD medicines to improve data timeliness and use for policy decision-making.
- Integrate NTD interventions into national universal health coverage and primary health care service delivery frameworks to enhance sustainability.
- Avail technical support to Member States for strengthening programme planning, implementation, monitoring and evaluation, as well as post-elimination surveillance, cross-border collaboration, innovation and R&D to improve tools for diagnosis, treatment and control.
- Promote adoption of holistic, cross-sectoral and country-led approaches to increasing investment in NTD programmes to address common programmatic and systemic challenges and barriers towards road map targets.

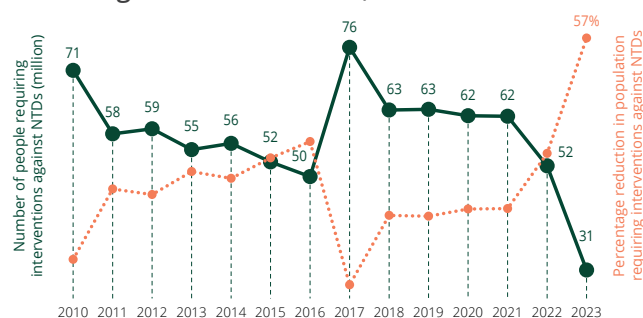
## 4.2 Region of the Americas

### Progress

- In 2023, the number of people requiring NTD interventions in the Region of the Americas was 31 million, 21 million fewer people than in 2022, and 40 million less than in 2010, equivalent to a decrease of 57% over the period 2010–2023 (Fig. 4.2).
- In 2023, 8.4 million people received treatment for one or more NTDs through preventive chemotherapy interventions, for a regional coverage of 28.1%.
- As of end 2024, five countries in the Region of the Americas had eliminated at least one NTD. Mexico has eliminated three NTDs, and Brazil, Colombia, Guatemala and Ecuador one disease each. In 2024, Brazil was validated for eliminating lymphatic filariasis as a public health problem.

- All countries and territories in the region have attained good capacity for surveillance, care and control of arboviral infections (including dengue and chikungunya).

**Fig. 4.2. Number of people and percentage reduction in population requiring interventions against NTDs in the Region of the Americas, 2010–2023**



Data source: WHO/Global Health Observatory

- Several countries in the Caribbean, Central America and South America have a low epidemiological burden of leprosy and show strong potential for achieving interruption of transmission before 2030.
- A prediction model estimating the expected incidence of cutaneous leishmaniasis concluded that 10 countries in the region have attained the road map target of detecting and reporting 85% of all cases (Brazil, Colombia, Costa Rica, Ecuador, Honduras, Mexico, Panama, Peru, the Plurinational State of Bolivia and Suriname), while four have attained treating 95% of all reported cases (Argentina, the Bolivarian Republic of Venezuela, Guatemala and Mexico); Mexico has attained both targets.
- Coordinated efforts have been scaled up towards an effective surveillance and public health response to snakebite envenoming events across health ministries in Latin America and the Caribbean.
- Significant reductions in the burden of disease of human fascioliasis have been achieved in Peru and the Plurinational State of Bolivia after several years of sustained control intervention.
- Uruguay has made significant advances towards elimination of echinococcosis as a public health problem (defined as zero incidence in people aged less than 15 years old) (1).

## Challenges

- Insufficient information and reporting on most skin NTD and neglected zoonotic diseases, making it difficult to prioritize interventions and promote integrated approaches.
- Limited collaboration with the veterinary public health sector for implementation of interventions in animal health for zoonotic diseases.
- Lack of alternative providers for antileishmanial medicines (all single providers).
- Lack of rapid tests for leishmaniasis, taeniasis and strongyloidiasis.
- High operational costs to reach geographically remote communities affected by NTDs.
- Resource constraints hindering coverage of all NTD interventions, and limiting integration of vector control interventions for a response to dengue, chikungunya and other arboviral infections.
- Political instability, migration, conflicts and humanitarian crises affecting programme implementation, limiting progress and increasing the risk of NTDs among affected populations.

- Brazil continues to account for more than 90% of leprosy cases reported in the region, despite efforts to accelerate implementation of interventions towards elimination.

## Priorities

- Continue using innovative strategies, notably integrated serosurveillance (e.g. multiplex bead assay) as a tool to complement epidemiological surveillance systems.
- Facilitate access to quality-assured medicines at low cost through the PAHO Revolving Fund (2).
- Strengthen the Network of Public Laboratories Producing Antivenoms in Latin America (Red de Laboratorios Públicos Productores de Antivenenos de América Latina, RELAPA) (3) to enhance collaboration, capacity, and quality standards across the region.
- Facilitate the validation of elimination of human rabies transmitted by dogs (a strategic priority under PAHO's Elimination Initiative (4)). Following the milestone achieved by Mexico in 2019, several countries in the Americas are being supported to advance in this process, in line with the regional commitment to achieve validation by 2030 made at the 17th Meeting of Directors of Rabies Programs in the Americas (REDIPRA 17) in 2023 (5).
- Adopt regulatory and operational actions in regional and national frameworks to expand access to diagnosis, treatment and innovations.
- Increase the role of community health workers and volunteers to reach vulnerable populations; engage civil society to drive adoption of policies; promote intercultural approaches for inclusive NTD interventions.
- Accelerate inter-programmatic collaboration to integrate health services and adapt them to population needs and contexts (e.g. integrated health services networks).
- Expand high-level advocacy across sectors (e.g. economy, education, environment) and scale up equity-focused tools for disease elimination.
- Sustain intersectoral collaboration with The Carter Center and the Onchocerciasis Elimination Program for the Americas (OEPA) to foster efforts towards elimination of onchocerciasis in Brazil and Venezuela.
- Foster collaborative surveillance and strengthen capacities for clinical detection and case management of cases of dengue, chikungunya, other arboviral infections and leishmaniasis, with the aim of reducing case-fatality rates.

- Strengthen support to national vector control programmes, most of which are affected by gaps in financial and human resource deficits.
- Reinforce primary health care services (clinical management, diagnosis, etc.) and strengthen health information systems for NTDs nationally and locally.
- Ensure access to comprehensive, universal care for all individuals affected by chronic morbidity and disability caused by NTDs (Chagas disease, lymphatic filariasis, leprosy, cysticercosis, snakebite, others).
- Develop and promote the implementation of a Strategic Plan to address NTDs in the Amazon basin.
- Implement surveillance and integrated cross-border collaboration between countries to

address migration-related health challenges occurring in the region.

- Transfer national inter-institutional coordination skills to local governments and community leaders, while engaging with sectors such as education and WASH, and promote community-led initiatives for NTD elimination.
- Intensify the activities of the Regional Plan for the Elimination of cystic echinococcosis to address the disease burden in Argentina, southern Brazil, Chile, Paraguay and Peru.
- Conduct mapping, burden assessment and identification of risk factors for taeniasis by including data collection into surveys targeting other conditions (following the example of the soil-transmitted helminthiasis survey in Honduras).

## 4.3 South-East Asia Region

### Progress

In 2023, the number of people requiring NTD interventions in the South-East Asia Region was 788 million, 45 million fewer people than in 2022, and 387 million less than in 2010, equivalent to a decrease of 33% over the period 2010–2023 (Fig. 4.3).

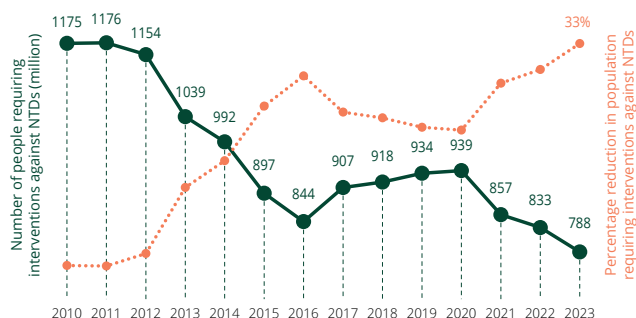
In 2023, 515 million people received treatment for one or more NTDs through preventive chemotherapy interventions, for a regional coverage of 65.4%.

As of end 2024, eight countries in the South-East Asia Region had eliminated at least one NTD. India had eliminated three NTDs, Bangladesh two NTDs, and the Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste one disease each. In 2024, India was validated for eliminating trachoma as a public health

problem, and Timor-Leste was validated for eliminating lymphatic filariasis as a public health problem. Following validation of elimination of VL as a public health problem in Bangladesh in 2023, all implementation units in India and Nepal had also achieved the elimination threshold by the end of 2024.

- Integrated programme reviews targeting vector-borne diseases (dengue, cutaneous and visceral leishmaniases, lymphatic filariasis and malaria) were conducted in Sri Lanka and Nepal; an integrated review targeting skin NTDs (leprosy, lymphatic filariasis and yaws) was completed in Indonesia;<sup>1</sup> disease-specific reviews were completed in Sri Lanka and Timor-Leste for leprosy, and in Indonesia for schistosomiasis.
- To accelerate the work to end NTDs, the WHO Regional Office for South-East Asia convened a Regional Partners Forum in New Delhi, India, on 16–17 April 2024. The meeting was attended by senior health officials, NTD programme managers, and representatives of major donor and partner agencies. The forum emphasized collaborative efforts, with experts discussing policy recommendations, technological advancements, and successful case studies (6). During the event, the *Regional strategic framework for sustaining, accelerating and innovating to end neglected tropical diseases in the South-East Asia Region, 2024–*

**Fig. 4.3. Number of people and percentage reduction in population requiring interventions against NTDs in the South-East Asia Region, 2010–2023**



Data source: WHO/Global Health Observatory

<sup>1</sup> In accordance with resolution WHA78.25 (2025), Indonesia was reassigned to the WHO Western Pacific Region as of 27 May 2025.

2030 (7) was launched, with the aim of guiding and coordinating efforts in implementing the road map across the region.

- Numerous activities took place across the region to strengthen dengue prevention and control, such as the initiation of the monthly dengue data reporting mechanism, the launch of the Regional Dengue Dashboard, the launch of the WHO online course on dengue patient management in three languages, and the organization of a comprehensive 7-day dengue case-management training workshop in Sri Lanka for clinicians and nurses from Bangladesh, Bhutan and Myanmar.
- In response to the bi-regional Tripartite Rabies Meeting (Bangkok, Thailand, 16–18 July 2024), the WHO Regional Office for South-East Asia convened a Regional rabies lab diagnosis and case management training in collaboration with the National Institute of Mental Health and Neurosciences (NIMHANS) in Bengaluru, India, in October 2024.
- The WHO Regional Office for South-East Asia co-organized a Regional COR-NTD Meeting for South-East Asia in collaboration with the Task Force for Global Health (Atlanta) in Delhi, India (18–19 April 2024). The meeting facilitated discussions on feasibility and reviewed experience, and highlighted opportunities to advance implementation of innovative integrated surveillance of NTDs in the region.
- The WHO Regional Office for South-East Asia also launched the SEARO/TDR Impact Grants to promote SEAR-based research and innovations for accelerating elimination of infectious diseases of poverty, including NTDs. Ten Impact Grants have been awarded and will implement the research study by the end of 2025.

## Challenges

- Lack of resources and capacity for sustaining active case detection, contact tracing, treatment and/or vector control for dengue, leishmaniasis, leprosy and yaws, hindering elimination efforts.
- Late case detection and high disability rates in leprosy signalling ongoing transmission, with slow adoption of innovative strategies, such as single-dose rifampicin PEP limiting progress.
- Sustaining high treatment coverage and high-quality lymphatic filariasis surveys and addressing the presence of “never-treated” populations for the disease in large countries with decentralized government, and emerging issue of zoonotic transmission of Brugian filariasis across Asia.

- Sustaining capacity for robust surveillance and response and strengthening integration with primary health care in the post-validation phase for diseases such as lymphatic filariasis, visceral leishmaniasis (kala-azar) and trachoma, which will require continued investments, in spite of complacency and donor fatigue.
- Environmental and social factors such as poor housing, sanitation and community awareness exacerbate the prevalence of diseases like dengue, rabies, snakebite envenoming and taeniasis, which remain hyperendemic in the region.
- Limited data, attention, awareness and resources on skin NTDs and parasitic zoonoses such as taeniasis/cysticercosis and foodborne trematodiasis highlight the need for high-level advocacy and holistic multisectoral actions, such as One Health, burden assessment community engagement and strengthened partnerships across sectors, to address the broader determinants of health and sustain elimination efforts.

## Priorities

- Implement the *Regional strategic framework for sustaining, accelerating and innovating to end neglected tropical diseases in the South-East Asia Region, 2024–2030 (7)* in order to:
  - strengthen country ownership, leadership and stewardship by enhancing governance and fostering collaboration among stakeholders to ensure alignment with the 2030 targets. This includes supporting countries in multi-disease burden assessment, high-level advocacy and the development of integrated NTD elimination plans;
  - accelerate programmatic actions to reduce the burden of NTDs through innovative tools, enhanced strategies and strengthened service delivery, including the development of tools to support convergence of NTD programmes with primary health care and the facilitation of integrated surveillance;
  - intensify integrated and cross-cutting approaches by aligning efforts across multiple NTDs and related sectors such as WASH and vector control, through a people-centred MDE approach aiming to accelerate elimination of multiple diseases to break silos and overcome barriers in service delivery and health system strengthening, and address social determinants of health through an integrated, sustainable and holistic approach.

## 4.4 European Region

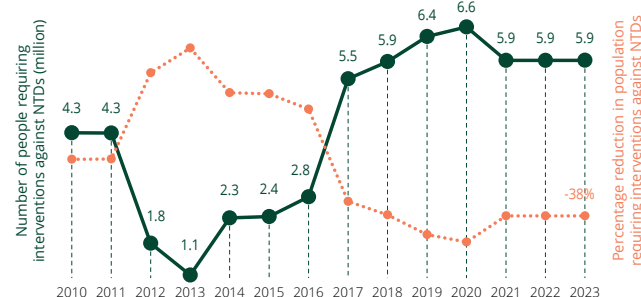
### Progress

- In 2023, the number of people requiring NTD interventions in the European Region remained stable at 5.9 million, the same number as in 2022, which is 1.6 million more than in 2010, equivalent to an increase of 38% over the period 2010–2023 (Fig. 4.4).
- In 2023, 2.1 million people received treatment for one or more NTDs through preventive chemotherapy interventions, for a regional coverage of 34.9%.
- As of end 2024, no countries in the European Region had eliminated any NTD.
- The region holds less than 1% of the global burden for leprosy and no G2D. In 2023, 33 cases were reported in mainland Europe and 4 cases from territories (Mayotte), among which was 1 child. Of the 33 cases, 25 were non-autochthonous, as reported from France (6), Germany (1), Netherlands (Kingdom of the) (2), Russian Federation (1), Spain (7), Sweden (4), Ukraine (1) and the United Kingdom of Great Britain and Northern Ireland (3); 25 countries reported zero cases in 2023 (8).
- There is no recent history of trachoma in the region, and no district is known to require the A, F or E component of SAFE strategy for the purposes of trachoma elimination as a public health problem (9).

### Challenges

- Low rate of reporting by countries endemic for leishmaniasis. In 2023, six countries reported on autochthonous cases of cutaneous leishmaniasis (24%; 6/25), including two reporting zero cases, and nine reporting autochthonous cases of visceral leishmaniasis (33%, 9/27). Although a larger number of European countries report on imported cases, these low reporting rates obviate interpretation of the disease burden and trends based on the small numbers of cases notified (10,11).
- Limited uptake of preventive chemotherapy. Of the three countries requiring preventive chemotherapy for soil-transmitted helminthiases, only Tajikistan implemented the intervention in 2023, reaching 2.1 million school-aged children, which corresponds to 57.2% regional coverage for this age group.
- Growing detection of NTDs in Europe due to the increasing immigration of people from endemic areas. Nonetheless, specific treatments are not easily accessible as they are neither officially licensed nor marketed in many countries (12).
- Climate change has created ambient temperatures that since 2010 have facilitated sporadic events of dengue virus transmission in the region. In 2023, dengue was reported from three countries in mainland Europe, namely France (45 cases), Italy (82 cases) and Spain (83 cases).

**Fig. 4.4. Number of people and percentage reduction in population requiring interventions against NTDs in the European Region, 2010–2023**



Data source: WHO/Global Health Observatory

### Priorities

- Conduct prevalence surveys for soil-transmitted helminthiases in Kyrgyzstan, Tajikistan and Uzbekistan to determine regional progress towards the road map targets.
- Strengthen work on preparedness of European health systems to address NTD conditions, particularly from among international travelers and migration from low-income countries.
- Facilitate acknowledgement of the achievement of epidemiological targets in low-endemic countries.
- Ensure availability of workforce in the WHO Regional Office to coordinate and support policies and strategies to enhance access to interventions for NTDs.

## 4.5 Eastern Mediterranean Region

### Progress

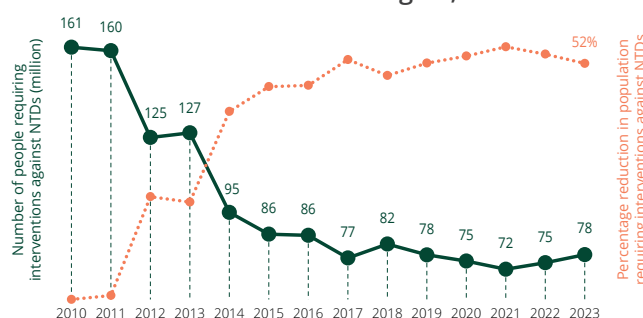
- In 2023, the number of people requiring NTD interventions in the Eastern Mediterranean Region was 78 million, 3 million more than in 2022, but 83 million less than in 2010, equivalent to a decrease of 52% over the period 2010–2023 (Fig. 4.5).
- In 2023, 20.4 million people received treatment for one or more NTDs through preventive chemotherapy interventions, for a regional coverage of 26.2%.
- As of end 2024, nine countries in the region had eliminated at least one NTD. Pakistan and Yemen had eliminated two NTDs each, while Egypt, Iraq, Islamic Republic of Iran, Jordan, Morocco, Oman and Saudi Arabia had eliminated one disease each. In 2024, Jordan was verified for eliminating leprosy disease (the first country globally), and Pakistan was validated for eliminating trachoma as a public health problem.
- The integrated skin NTD approach continued to be rolled out in several countries, including Pakistan, Somalia and Sudan.
- Screening of contacts of leprosy cases followed by administration of PEP with single-dose rifampicin was piloted in five priority countries.
- Health information systems for snakebite envenoming were scaled up, with five countries reporting 2023 data.
- In the Syrian Arab Republic, community-based interventions were implemented to address the burden of scabies and vector control interventions were strengthened to decrease transmission of cutaneous leishmaniasis.

- The review of the Yemen NTD masterplan 2019–2023, based on key informant interviews and field visits, was completed in 2024.

### Challenges

- Insufficient commitment by regional governments and stakeholders to allocating resources for NTD control and elimination.
- Complex emergency situations in several moderate and high-burden countries, weakening health care delivery systems, increasing vulnerability of health workers, hindering accessibility and delaying delivery of supplies.
- Lack of progress in Sudan, which remains in the pre-certification phase for interrupting transmission of dracunculiasis (Guinea-worm disease); surveillance activities stopped in 2023 due to the conflict but restarted in accessible States in 2024.
- The region reports the highest global proportion of cases of leishmaniasis. Notably Afghanistan, Iraq, Islamic Republic of Iran, Pakistan, the Syrian Arab Republic and Yemen are among the world's most affected countries by cutaneous leishmaniasis. Sudan continues to report the highest number of visceral leishmaniasis cases globally, representing over 70% of the region's cases, followed by Somalia and Yemen.
- Somalia is the only country in the region classified as previously endemic for yaws; its current status has yet to be assessed.
- Shortage of diagnostics and effective medicines for some NTDs such as leishmaniasis affect progress on disease control. Poor supply chain management also leads to delays in clearance, improper storage, expiry and damage of stocks of medicines and diagnostics.
- Inadequate resources, incomplete mapping and inaccessible areas continue to hamper coverage of mass drug administration interventions.
- Stigma is a persistent issue for some skin NTDs and obstructs timely seeking for treatment.
- Weak surveillance systems prevent timely and accurate surveillance and case-reporting; some countries highlight limited reporting from the private sector.

**Fig. 4.5. Number of people and percentage reduction in population requiring interventions against NTDs in the Eastern Mediterranean Region, 2010–2023**



Data source: WHO/Global Health Observatory

## Priorities

- Implement flagship initiatives as the main catalysts for the *Strategic operational plan for the Eastern Mediterranean Region, 2025–2028 (13)* endorsed by Member States in 2024, by:
  - expanding access to high-quality medical products and reducing reliance on imports; enhancing procurement and supply systems; increasing local production capacity; and

strengthening regulatory systems. One of the main assets of this initiative is a new regional pooled procurement mechanism;

- building a resilient, fit-for-purpose and sustainable health workforce across the region. Several measures are proposed in the strategic operational plan to increase investment in expansion and retention of the workforce, particularly for primary care and essential public health functions.

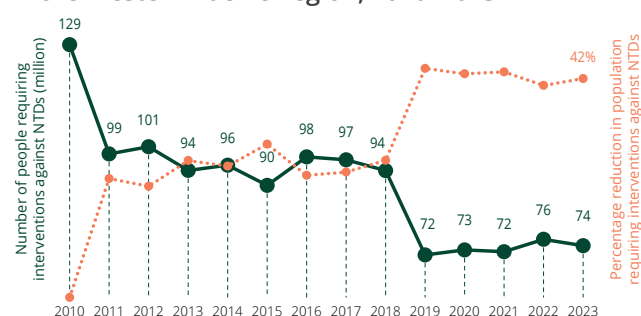
## 4.6 Western Pacific Region

### Progress

- In 2023, the number of people requiring NTD interventions in the Western Pacific Region was 74 million, 2 million fewer people than in 2022, and 55 million less than in 2010, equivalent to a decrease of 42% over the period 2010–2023 (Fig. 4.6).
- In 2023, 28.5 million people received treatment for one or more NTDs through preventive chemotherapy interventions, for a regional coverage of 38.6%.
- As of end 2024, 12 countries in the region had eliminated at least one NTD. Cambodia, the Lao People's Democratic Republic, Vanuatu and Viet Nam had eliminated two NTDs each, and China, Cook Islands, Kiribati, Marshall Islands, Niue, Palau, Tonga, Wallis and Futuna had eliminated one disease each. In 2024, Viet Nam was validated for eliminating trachoma as a public health problem.
- All countries and areas endemic for lymphatic filariasis in the region are now implementing the IDA regimen in MDA campaigns.

- Regional cooperation for the interruption of transmission of schistosomiasis (*S. mekongi*) has gained strength thanks to funding support from the governments of China and Switzerland to Cambodia and the Lao People's Democratic Republic towards implementation of community-led WASH initiatives and multisectoral cooperation under One Health approaches.
- Solomon Islands completed the country's second round of a nationwide MDA of ivermectin for scabies in the fourth quarter of 2024.
- Targeted MDAs against yaws were conducted in Papua New Guinea and Solomon Islands, and diagnosis and treatment of the disease strengthened in primary health care facilities.
- Cambodia, the Lao People's Democratic Republic, Malaysia, Mongolia and Viet Nam implemented national rabies elimination strategies with measures such as mass dog vaccination, public awareness campaigns and multisectoral collaborations.
- The "Pacific Integrated NTD Elimination" (PINE), a multimillion US dollars project funded by the Takeda Foundation through Bridges to Development was successfully completed in 2024; it helped reach nearly 200 000 people in Vanuatu and 300 000 people in Papua New Guinea through integrated interventions for lymphatic filariasis, scabies and yaws, and resulted in nearly 40% in saving financial costs.
- The Integrated Skin NTD Project in Papua New Guinea 2024 has significantly advanced the control and elimination of skin NTDs such as yaws, Buruli ulcer, lymphatic filariasis, leprosy and scabies through strengthened surveillance, capacity-building and provision of diagnostics and medicines.

**Fig. 4.6. Number of people and percentage reduction in population requiring interventions against NTDs in the Western Pacific Region, 2010–2023**



Data source: WHO/Global Health Observatory

## Challenges

- Resurgence of lymphatic filariasis in Wallis and Futuna and increasing numbers of new cases in Tonga.
- Limited access to azithromycin and dual path platform diagnostic tests, jeopardizing efforts to eliminate yaws in the region.
- Climate change and extreme weather events acutely affecting Pacific island countries and increasing transmission of vector-borne diseases.
- Important operational challenges related to access of geographically-remote island communities and health workforce shortages in some endemic areas across the region, threatening sustainability of efforts to combat NTDs.
- Continued reliance on external funding for high-burden NTDs, with limited domestic financial allocation hamper sustainability of interventions, especially in some Pacific Island countries.

## Priorities

- Strengthen domestic financing strategies, and leverage regional cooperation, policy engagements and innovation to sustain and scale up NTD elimination efforts and accelerate progress towards the 2030 road map targets.
- Implement MDE in alignment with WHO's regional vision to support Member States on integrated primary health care-based and community-led efforts to eliminate multiple diseases including NTDs of regional priority (leprosy, lymphatic filariasis, rabies, schistosomiasis, soil-transmitted helminthiasis, trachoma and yaws).
- Support the Western Pacific Regional Committee's recommendation to implement the *Weaving health for families, communities and societies in the Western Pacific Region (2025–2029)* project to promote operationalization of the MDE initiative (14).
- Expand One Health collaboration for rabies and vector-borne diseases.
- Promote digital health solutions for real-time NTD surveillance and outbreak response.

## References

1. Programa Regional para la eliminación de la equinococosis quística/hidatidosis 2020–2029 [Regional programme for the elimination of cystic echinococcosis and hydatid disease 2020–2029]. Washington (DC): Pan American Health Organization; 2021 (<https://www.paho.org/es/documentos/programa-regional-para-eliminacion-equinococosis-quistica-hidatidosis-2020-2029>, accessed 20 June 2025).
2. PAHO Revolving Fund. In: WHO/PAHO [website]. Washington (DC): Pan American Health Organization/WHO Regional Office for the Americas; 2025 (<https://www.paho.org/en/revolving-fund>, accessed 20 June 2025).
3. RELAPA2: Latin American Network of Public Antivenom Manufacturing Laboratories. Rio de Janeiro, Brazil, May 13–15 2025. In: PAHO/RELAPA [website]. Washington (DC): Pan American Center for Foot-and-Mouth Disease and Veterinary Public Health (<https://www.paho.org/en/panaftosa/relapa/relapa-2>, accessed 20 June 2025).
4. Diseases Elimination Initiative. In: PAHO/Elimination initiative [website]. Washington (DC): Pan American Health Organization (<https://www.paho.org/en/elimination-initiative>, accessed 20 June 2025).
5. REDIPRA 17. Regional Plan for the elimination of canine rabies 2024–2030. Washington (DC): Pan American Health Organization; 2023 (<https://iris.paho.org/handle/10665.2/58961>).
6. Meeting of Regional Partners' Forum: Sustain, accelerate and innovate to end neglected tropical diseases in South-East Asia, New Delhi, 16–17 April 2024. WHO Regional Office for South-East Asia; 2025 (<https://iris.who.int/handle/10665/380834>).
7. Regional Strategic Framework for sustaining, accelerating and innovating to end neglected tropical diseases in the South-East Asia Region, 2024–2030. Geneva: World Health Organization. Regional Office for South-East Asia World Health Organization; 2024 (<https://iris.who.int/handle/10665/376636>).
8. Leprosy (Hansen disease). In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/leprosy-hansens-disease>, accessed 20 June 2025).

9. WHO Alliance for the Global Elimination of Trachoma: progress report on elimination of trachoma, 2023. *Wkly Epidemiol Rec.* 2024;99(28):363–379 (<https://iris.who.int/handle/10665/378196>).
10. Leishmaniasis. In: WHO/Global Health Observatory [website]. Geneva: World Health Organization (<https://www.who.int/data/gho/data/themes/topics/gho-ntd-leishmaniasis>, accessed 20 June 2025).
11. Global leishmaniasis surveillance updates 2023: 3 years of the NTD road map. *Wkly Epidemiol Rec.* 2024;99(45):653–669 (<https://iris.who.int/handle/10665/379491>).
12. Calleri G, Angheben A, Albonico M. Neglected tropical diseases in Europe: rare diseases and orphan drugs? *Infection.* 2019;47(1):3–5 (<https://pubmed.ncbi.nlm.nih.gov/30390200/>).
13. Strategic operational plan for the Eastern Mediterranean Region, 2025-2028. World Health Organization. Cairo: Regional Office for the Eastern Mediterranean; 2024 (<https://iris.who.int/handle/10665/381267>).
14. Weaving health for families, communities and societies in the Western Pacific Region (2025–2029). Manila: WHO Regional Office for the Western Pacific; 2024 (<https://iris.who.int/handle/10665/379775>).

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## 5. Conclusions and way forward

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Concerted action over the past 20 years has established NTDs as a powerful global advocacy brand that has transformed support for under-recognized illnesses into a coordinated global movement for equity in health. The growing list of countries eliminating NTDs through a combination of strategic interventions, strong political commitment and community engagement is a powerful testament of what is achievable.

This report highlights a wealth of progress and substantial public health gains made to-date. NTDs are gaining traction in national health agendas and sustainability planning. There has even been scale-up for some of the interventions against NTDs in the post COVID-19 scenario. Yet, these successes are fragile and threatened by existential factors. Climate change continues to expand vector-borne NTDs into new areas. Geopolitical conflicts, migration, humanitarian crises and instability disrupt access to NTD interventions and may further compromise equity. Data gaps and incomplete surveillance systems continue to undermine strategic planning and routine programme management. Importantly, without funding mechanisms that empower country ownership and beneficiary community engagement, there is a real risk of stagnation or even reversal of hard-won gains.

All efforts should continue to be made to improve efficiencies and harness synergies within and beyond

NTD programmes. Programme operations should prioritize integration, harness the immense potential of digital tools and mobilize domestic resources, community engagement and ownership as keys to amplifying the effectiveness of the multifaceted strategic approaches presented in the road map.

Adapting to the pervasive budgetary crises that NTD programmes are facing requires continuation of the shift from vertical, donor-driven models to sustainable, integrated and country-led approaches, as advocated in the road map. By improving efficiency, fostering collaboration and building stronger country ownership, NTD programmes can stay on track to meet the 2030 road map targets despite the financial constraints. This calls for stronger coordination practices at all levels of programme delivery, and more accurate reflection of the contribution of NTDs to the broader goals of universal health coverage, primary health care and the SDGs.

Keeping NTDs visible and present on the global agenda is critical to regaining and sustaining momentum towards elimination targets and protecting vulnerable communities. The political commitment expressed in the road map to 2030 must be amplified and demonstrated through synergistic actions, at all levels, that can accelerate progress towards attaining set targets with numerous benefits across health, economic, social and development sectors.

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# Annex 1. Creditor reporting system data notes

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The financing mapping for neglected tropical diseases is based on the data from the Organisation for Economic Co-operation and Development (OECD) collected through its creditor reporting system (CRS). It covers various domains of development aid, including in the health sector.

In order to assess financing trends for neglected tropical diseases (NTDs) in recent years, we extracted the data from 2018 to 2023, with 2023 the latest year for which data were available. Table A1.1 lists the variables that were extracted from the CRS database for this purpose.

**Table A1.1. CRS database variables and description**

| Variable name    | Variable description                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DonorName        | Reporting country or multilateral organization providing the aid.                                                                                                                                                                                                                                                                                                                                                                                                      |
| AgencyName       | The extending agency is the government entity (central, state or local government agency or department) financing the activity from its own budget. It is the budget holder, controlling the activity on its own account.                                                                                                                                                                                                                                              |
| ProjectNumber    | Number, or combination of letters and numbers, used by the extending agency to identify the activity.                                                                                                                                                                                                                                                                                                                                                                  |
| RecipientName    | The country/territory benefitting from the aid activity. All recipients must be on the DAC list of ODA recipients.                                                                                                                                                                                                                                                                                                                                                     |
| USD_Commitment   | New or additional amounts committed during the reporting year. The face value of the activity in millions of units and in USD. A commitment is a firm written obligation by a government or official agency, backed by the appropriation or availability of the necessary funds, to provide resources of a specified amount under specified financial terms and conditions and for specified purposes for the benefit of a recipient country or a multilateral agency. |
| USD_Disbursement | Amount disbursed during the reporting year. In millions of units and in USD. A disbursement is the placement of resources at the disposal of a recipient country or agency, or in the case of internal development-related expenditures, the outlay of funds by the official sector.                                                                                                                                                                                   |
| USD_Received     | Amount received during the reporting year. In millions of units in USD.                                                                                                                                                                                                                                                                                                                                                                                                |
| ProjectTitle     | The official project title can be used as a brief description (150 characters or less) of the aid activity.                                                                                                                                                                                                                                                                                                                                                            |
| LongDescription  | A longer description of the activity, providing additional detail beyond the short description. May also contain overflow information from other fields with shorter character limits (e.g. geographical target area, SDG focus).                                                                                                                                                                                                                                      |
| SDGfocus         | Sustainable development goal(s) or target(s) the activity aims to contribute to directly. The reporting on the SDG focus is optional. The field can contain up to ten values (goals or targets or a mixture of the two) separated by semicolons “;”. A zero value (“0”) implies that the activity has been screened but does not aim to directly contribute to any of the SDGs. A blank value (NULL) implies that the activity has not been screened against the SDGs. |

DAC: Development Assistance Committee; SDG: Sustainable Development Goal; USD: United States dollars.

# Process for building the NTD financing analysis database

## 1. Identify projections that are relevant to NTDs.

In order to identify projects that have activities addressing NTD-related issues, we built a list of NTD key words based on established classifications and terminologies used in WHO documents, global health literature and disease burden assessments. The following search terms were applied:

Buruli ulcer, Chagas disease, Dengue, Chikungunya, Dracunculiasis, Guinea-worm disease, Echinococcosis, Foodborne trematodiasis, Human African trypanosomiasis, Sleeping sickness, Leishmaniasis, Leprosy (Hansen disease), Trypanosomiasis, Lymphatic filariasis, Mycetoma, Chromoblastomycosis, Deep mycoses, Onchocerciasis (River blindness), Rabies, Scabies and other ectoparasitic infections, Schistosomiasis, Soil-transmitted helminthiasis, Snakebite envenoming, Taeniasis, Cysticercosis, Trachoma, Yaws, Endemic treponematoses, and Neglected tropical diseases (NTDs).

This list of search terms was subsequently cross-referenced with project descriptions in the CRS database, specifically the “LongDescription” column. The matching process involved systematically screening the long-form project descriptions for the presence of the specified NTD-related terms. This approach ensured the inclusion of projects explicitly mentioning NTDs in their project description.

## 2. Group NTD-related projects from different angles.

To be able to analyse the data from different angles, we created a list of additional variables to capture the NTD-related parameters of the project based on the information provided by the long project description in the CRS database (Table A1.2).

## 3. Assign an “area” to each project.

To ensure consistent and accurate attribution of project areas, we implemented a dual-review approach that combines artificial intelligence (AI)-assisted analysis with human evaluation. Initially, Copilot was used to group projects based on their detailed descriptions. Copilot analysed each project using the following prompt:

### Prompt:

“Based on Table A1.3, analyse the project description that I’ll send to you one by one. In combination with the information available online about these projects, determine the project area, provide a one-sentence justification, and list the diseases covered.”

In parallel, a programme expert independently reviewed the project descriptions to assess the appropriate area

**Table A1.2. Variables and grouping criteria**

| Variable name  | Variable description and grouping criteria                                                                                                                                                                                                                                                                                                      |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Funding_scope  | This variable distinguishes if NTD issues are the primary targets of the project. It has two values: <ul style="list-style-type: none"> <li>targeting NTD: projects where NTDs are the main diseases targeted;</li> <li>including NTD: projects with broader objectives, where one or several NTDs are among the diseases addressed.</li> </ul> |
| NTD            | This variable captures which NTD is targeted by the project. Projects that include more than one NTD are grouped under the category of “neglected tropical diseases”.                                                                                                                                                                           |
| Area           | This variable captures the main working area that the project is proposing. Table A1.3 shows the categories of areas and their grouping criteria.                                                                                                                                                                                               |
| Funding amount | In the original CRS database, funding is distinguished by being committed, disbursed, or received. To avoid double counting, the maximum of the three columns is taken as the funding for the project.                                                                                                                                          |
| Year           | The year of which the project is listed                                                                                                                                                                                                                                                                                                         |

attribution. The conclusions from both the Copilot and the human review were then compared to ensure consistency and accuracy before finalizing the area assignment.

Project grouping consistency was verified by comparing project areas with the same number from 2018 to 2023, to ensure projects with identical numbers in the same country maintained the same grouping.

**Table A1.3. Area and grouping criteria**

| Strategic focus                    | Area                       | Criteria for grouping projects based on project description                                                                                                                                                                                                 |
|------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Global network                     | Advocacy                   | Include any actions, including communication, at national and international levels aimed at promoting greater efforts to combat any disease(s) included in the WHO NTD list.                                                                                |
|                                    | International network      | Project aimed at building/maintaining/improving partnership beyond one country                                                                                                                                                                              |
|                                    | External technical support | Technical support provided by an external partner/organization/institution/experts                                                                                                                                                                          |
|                                    | WHO country                | Funding managed by a WHO regional office                                                                                                                                                                                                                    |
|                                    | WHO region                 | Funding managed by a WHO regional office                                                                                                                                                                                                                    |
|                                    | WHO NTD programme          | Funding managed by the WHO Global Neglected Tropical Diseases Programme                                                                                                                                                                                     |
| Health sector interventions        | Capacity-building          | Activities on training or activities aimed at improving the quality of services, data, M&E, etc.                                                                                                                                                            |
|                                    | Community Health           | Activities targeting patients, aimed at reducing stigma, improving patients' living conditions, raising awareness and providing health education.                                                                                                           |
|                                    | HSS                        | Actions aimed at strengthening health systems, including HR, technology, infrastructure, supply chain, etc.                                                                                                                                                 |
|                                    | Programme                  | Projects that aim to achieve specific goals or improve governance, planning and strategy development for NTD interventions. These projects may also cover multiple aspects of an NTD intervention strategy, including M&E, surveillance and sustainability. |
|                                    | Intervention               | Implementation of one or more concrete activities/health services in one or multiple locations in a country                                                                                                                                                 |
|                                    | Outbreak prevention        | Actions aimed at reducing the risk of outbreak of a disease                                                                                                                                                                                                 |
|                                    | Outbreak response          | Actions aimed at responding to an outbreak.                                                                                                                                                                                                                 |
| R&D, including innovation          | Innovation                 | Piloting/implementing a new method/tool/strategy in the field                                                                                                                                                                                               |
|                                    | R&D                        | Research and development projects which are not at implementing phase. These projects are often proposed by a research institution or a scientific/academic group                                                                                           |
| Interventions beyond health sector | Vector control             | Interventions aimed at reducing the population of the disease vectors at country level                                                                                                                                                                      |
|                                    | WASH                       | Projects with the main target of improving access to water and sanitation                                                                                                                                                                                   |
|                                    | One Health                 | Projects addressing animal health or other interventions beyond the health sector that benefit NTDs as consequence.                                                                                                                                         |

HSS: health system strengthening; M&E: monitoring and evaluation; R&D: research and development; WASH: water, sanitation and hygiene; WHO: World Health Organization.

## Annex 2. Status of donated medicines and health products by disease and donor commitment as of December 2024

| Disease                                                     | Manufacturer             | Product name                                                                                                                                                            | MoU period | Current donation commitment                                                       |
|-------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------|
| Donations managed by WHO                                    |                          |                                                                                                                                                                         |            |                                                                                   |
| Chagas disease                                              | Bayer AG (Germany)       | Nifurtimox (120 mg tablets)                                                                                                                                             | 2007–2025  | Up to a total of 12 500 000 tablets for the treatment of Chagas disease           |
|                                                             | Chemo Group (Mundo Sano) | Benznidazole (100 mg tablet; 12.5 mg tablet)                                                                                                                            | 2020–2023  | 3000 tablets (12.5mg)/105 000 tablets (100 mg)                                    |
| Foodborne trematodiasis (fascioliasis and paragonimiasis)   | Novartis (Switzerland)   | Triclabendazole (250 mg tablets)                                                                                                                                        | 2016–2025  | Up to 600 000 tablets for the treatment of fascioliasis and paragonimiasis        |
| Foodborne trematodiasis (clonorchiasis and opisthorchiasis) | Bayer AG (Germany)       | Praziquantel (600 mg tablets)                                                                                                                                           | 2020–2024  | Within the limits of the donation of praziquantel for taeniasis/ cysticercosis    |
| Human African trypanosomiasis (HAT)                         | Bayer AG (Germany)       | Nifurtimox (120 mg tablets)                                                                                                                                             | 2009–2026  | Up to 150 000 tablets for 5 years, adjustable to needs to treat HAT               |
|                                                             |                          | Suramin (1 g in vial)                                                                                                                                                   | 2002–2026  | Up to 10 000 vials for 5 years, adjustable to needs to treat HAT                  |
|                                                             | Sanofi (France)          | Eflornithine (200 mg per mL in 100 mL bottle);<br>Melarsoprol (3.6% in 5 mL ampoule solution (180 mg of active compound));<br>Pentamidine (200 mg powder for injection) | 2001–2026  | Unlimited quantity for the treatment of HAT                                       |
|                                                             |                          | Fexinidazole (600 mg tablets)                                                                                                                                           | 2019–2026  |                                                                                   |
|                                                             | Cytiva (Sweden)          | Diagnostics of HAT.<br>DE52 cellulose (10 kg pack size) and cytopore 2 (1 kg pack size)                                                                                 | 2022–2024  | Enough DE52 cellulose (230 kg) and cytopore 2 (9 kg) to cover the need until 2025 |

| Disease                              | Manufacturer                                     | Product name                                                                  | MoU period                              | Current donation commitment                                                                                                                                                                                                                                                                          |
|--------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Donations managed by WHO             |                                                  |                                                                               |                                         |                                                                                                                                                                                                                                                                                                      |
| Leprosy                              | Novartis<br>(Switzerland)                        | Clofazimine<br>(100 mg capsule)                                               | 2000–2025                               | Up to 1 650 000 capsules for the treatment of severe erythema nodosum leprosum reactions                                                                                                                                                                                                             |
|                                      |                                                  | Clofazimine<br>(50 mg capsule)                                                |                                         |                                                                                                                                                                                                                                                                                                      |
|                                      |                                                  | MDT* MB adult and child                                                       |                                         | Up to 2 478 000 blisters annually for the treatment of leprosy and its complications                                                                                                                                                                                                                 |
|                                      |                                                  | MDT PB adult and child                                                        |                                         |                                                                                                                                                                                                                                                                                                      |
|                                      |                                                  | Rifampicin (150 mg, 300 mg, syrup)                                            | 2024–2025                               | Funding procurement of single-dose rifampicin for leprosy post-exposure prophylaxis (SDR-PEP) for contacts of leprosy patients                                                                                                                                                                       |
| Lymphatic filariasis (LF)            | Eisai<br>(Japan)                                 | Diethylcarbamazine citrate<br>(100 mg tablets)                                | Since 2012 until elimination of LF      | Up to 2.2 billion tablets committed for first 7-year period for use in the preventive chemotherapy of LF<br>Extended in 2017 until elimination is achieved<br>Current MoU runs until 2025                                                                                                            |
|                                      | GlaxoSmithKline<br>(GSK)<br>(United Kingdom)     | Albendazole (400 mg tablets)                                                  | Since 1997 until elimination of LF      | Up to 600 million tablets annually for use in the preventive chemotherapy of LF                                                                                                                                                                                                                      |
| Schistosomiasis                      | Merck KGaA<br>(Germany)                          | Praziquantel<br>(600 mg tablets)                                              | Since 2007 for an unlimited period      | Up to 200 million tablets annually for the treatment of schistosomiasis in school-aged children (notably in Africa)<br>Since 2017, donation scaled up to 250 million tablets annually for the treatment of schistosomiasis in school-aged children and adults (in specific epidemiological contexts) |
| Soil-transmitted helminthiasis (STH) | GlaxoSmithKline<br>(GSK)<br>(United Kingdom)     | Albendazole<br>(400 mg tablets)                                               | 2012–2025                               | Up to 200 million tablets annually for use in the preventive chemotherapy of STH                                                                                                                                                                                                                     |
|                                      | Janssen Pharmaceuticals, Inc.<br>(United States) | Mebendazole<br>(500 mg tablets)                                               | Since 2012; current MoU runs until 2025 | Up to 200 million tablets annually for the treatment of STH in school-aged children and women of reproductive age                                                                                                                                                                                    |
| Visceral leishmaniasis (VL)          | Gilead Sciences, Inc.<br>(United States)         | Liposomal amphotericin B (lyophilized 50 mg formulation in vials) (AmBisome®) | 2012–2016                               | Up to 445 000 vials for the treatment of VL in South-East Asia and East Africa                                                                                                                                                                                                                       |
|                                      |                                                  |                                                                               | 2016–2021                               | Up to 380 400 vials for the treatment of VL in South-East Asia and East Africa                                                                                                                                                                                                                       |
|                                      |                                                  |                                                                               | 2022–2025                               | Up to 304 700 vials for the treatment of VL in South-East Asia and East Africa                                                                                                                                                                                                                       |
| Yaws                                 | EMS SA Pharma<br>(Brazil)                        | Azithromycin<br>(500 mg tablets)                                              | 2019–2024                               | 153 million tablets to support the global eradication of yaws                                                                                                                                                                                                                                        |
|                                      |                                                  |                                                                               | 2025–2030                               | 143 million tablets to support the global eradication of yaws                                                                                                                                                                                                                                        |
| Taeniasis and cysticercosis          | Bayer AG<br>(Germany)                            | Niclosamide<br>(400 mg tablets)                                               | 2020–2030                               | Up to a total of 2 800 000 tablets for the treatment of taeniasis                                                                                                                                                                                                                                    |
|                                      |                                                  | Praziquantel<br>(600 mg tablets)                                              | 2020–2024 <sup>1</sup>                  | Up to a total of 1 339 000 tablets for the treatment of taeniasis                                                                                                                                                                                                                                    |
| Cystic echinococcosis                | GlaxoSmithKline<br>(GSK)<br>(United Kingdom)     | Albendazole<br>(400 mg tablets)                                               | 2022–2025                               | Up to 5 million tablets within the limit of the overall donation of albendazole from GSK                                                                                                                                                                                                             |

<sup>1</sup> Bayer AG stopped production of praziquantel and will no longer supply this medicine to WHO after 2024.

| Disease                              | Manufacturer                                  | Product name                                                                               | MoU period                                                           | Current donation commitment                                                                                                                                                                           |
|--------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Donations managed outside WHO</b> |                                               |                                                                                            |                                                                      |                                                                                                                                                                                                       |
| Onchocerciasis                       | Merck, Sharpe and Dohme (MSD) (United States) | Ivermectin (3 mg tablets)                                                                  | Since 1987 until elimination of onchocerciasis                       | Unlimited supply for the treatment of onchocerciasis                                                                                                                                                  |
| Lymphatic filariasis (LF)            |                                               |                                                                                            | Since 1997 until elimination of LF<br><br>2018–2025 for IDA strategy | Unlimited supply for the treatment of LF<br><br>Up to 250 million tablets for use in WHO-recommended triple-therapy (IDA) MDA regimens to eliminate LF in countries not co-endemic for onchocerciasis |
| Trachoma                             | Pfizer Inc. (United States)                   | Azithromycin (250 mg tablets or 1200 mg in 30 mL (200 mg/5 mL) powder for oral suspension) | 1998–2025                                                            | Unlimited quantity for the elimination of trachoma as a public health problem                                                                                                                         |

IDA: ivermectin, diethylcarbamazine, albendazole; MB: multibacillary; MDA: mass drug administration; MoU: memorandum of understanding; PB: paucibacillary.

\* MDT: multidrug therapy (rifampicin (150 mg and 300 mg tablets), clofazimine (300 mg and 50 mg tablets), dapsone (100 mg tablets)) in blister packs depending on age and type of leprosy; loose clofazimine in capsules.

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# Annex 3. *Weekly Epidemiological Record* articles on neglected tropical diseases published in 2024

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**Dracunculiasis eradication: global surveillance summary, 2023**

*Weekly Epidemiological Record*, 99 (20):249–269 (<https://iris.who.int/handle/10665/376790>).

**Accelerating programmatic progress and access to biologicals for the control of neglected tropical zoonoses**

*Weekly Epidemiological Record*, 99 (23):307–318 (<https://iris.who.int/handle/10665/376980>).

**WHO Alliance for the Global Elimination of Trachoma: progress report on elimination of trachoma, 2023**

*Weekly Epidemiological Record*, 99 (28):363–380 (<https://iris.who.int/handle/10665/378196>).

**Global leprosy (Hansen disease) update, 2023: elimination of leprosy disease is possible – Time to act!**

*Weekly Epidemiological Record*, 99 (37):501–522 (<https://iris.who.int/handle/10665/378895>).

**Progress in eliminating onchocerciasis in the WHO Region of the Americas: report from the Inter-American Conference on Onchocerciasis (IACO) 2023**

*Weekly Epidemiological Record*, 99 (39):545–550 (<https://iris.who.int/handle/10665/379057>).

**Global programme to eliminate lymphatic filariasis: progress report, 2023**

*Weekly Epidemiological Record*, 99 (40):565–576 (<https://iris.who.int/handle/10665/379120>).

**Elimination of human onchocerciasis: progress report, 2023–2024**

*Weekly Epidemiological Record*, 99 (41):577–590 (<https://iris.who.int/handle/10665/379216>).

**Global leishmaniasis surveillance updates 2023: 3 years of the NTD road map**

*Weekly Epidemiological Record*, 99 (45):653–676 (<https://iris.who.int/handle/10665/379491>).

**Schistosomiasis and soil-transmitted helminthiases: progress report, 2023**

*Weekly Epidemiological Record*, 99 (48):707–718 (<https://iris.who.int/handle/10665/379716>).

**Global update on implementation of preventive chemotherapy against neglected tropical diseases (NTDs) in 2023 and status of donated medicines for NTDs in 2024**

*Weekly Epidemiological Record*, 99 (51/52):760–769 (<https://iris.who.int/handle/10665/379878>).

**Progress in snakebite envenoming data reporting: challenges and opportunities**

*Weekly Epidemiological Record*, 99 (51/52):770–775 (<https://iris.who.int/handle/10665/379879>).

# Annex 4. Target product profiles for neglected tropical diseases published by WHO as of December 2024

|     | Disease                              | Subject                                                                                                                                          | Web link to publication                                                                         |
|-----|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1.  | Buruli ulcer                         | TPP for a rapid test for diagnosis of Buruli ulcer at primary health-care level                                                                  | <a href="https://iris.who.int/handle/10665/353982">https://iris.who.int/handle/10665/353982</a> |
| 2.  | Dracunculiasis (Guinea-worm disease) | TPP to detect prepatent <i>Dracunculus medinensis</i> infections in animals                                                                      | <a href="https://iris.who.int/handle/10665/376398">https://iris.who.int/handle/10665/376398</a> |
| 3.  | Dracunculiasis (Guinea-worm disease) | TPP to detect <i>Dracunculus medinensis</i> presence in environmental samples                                                                    | <a href="https://iris.who.int/handle/10665/376399">https://iris.who.int/handle/10665/376399</a> |
| 4.  | Human African trypanosomiasis        | TPP for a gambiense human African trypanosomiasis test to identify individuals to receive widened treatment                                      | <a href="https://iris.who.int/handle/10665/352579">https://iris.who.int/handle/10665/352579</a> |
| 5.  | Human African trypanosomiasis        | TPP for a test for rhodesiense human African trypanosomiasis diagnosis usable in peripheral health facilities                                    | <a href="https://iris.who.int/handle/10665/344165">https://iris.who.int/handle/10665/344165</a> |
| 6.  | Human African trypanosomiasis        | TPP for an individual test to assess gambiense human African trypanosomiasis infection in low prevalence settings                                | <a href="https://iris.who.int/handle/10665/365383">https://iris.who.int/handle/10665/365383</a> |
| 7.  | Human African trypanosomiasis        | TPP for a high-throughput test for verification of elimination of gambiense human African trypanosomiasis                                        | <a href="https://iris.who.int/handle/10665/365384">https://iris.who.int/handle/10665/365384</a> |
| 8.  | Leishmaniases (dermal)               | TPP for a point-of-care test for dermal leishmaniases                                                                                            | <a href="https://iris.who.int/handle/10665/353980">https://iris.who.int/handle/10665/353980</a> |
| 9.  | Leishmaniasis (visceral)             | TPP for a diagnostic test to confirm cure of visceral leishmaniasis                                                                              | <a href="https://iris.who.int/handle/10665/378031">https://iris.who.int/handle/10665/378031</a> |
| 10. | Leishmaniasis (visceral)             | TPP for a diagnostic test to confirm visceral leishmaniasis                                                                                      | <a href="https://iris.who.int/handle/10665/378703">https://iris.who.int/handle/10665/378703</a> |
| 11. | Leprosy                              | TPP for a diagnostic test to confirm leprosy in individuals with clinical signs and symptoms                                                     | <a href="https://iris.who.int/handle/10665/371647">https://iris.who.int/handle/10665/371647</a> |
| 12. | Leprosy                              | TPP for a diagnostic test to detect <i>Mycobacterium leprae</i> infection among asymptomatic household and familial contacts of leprosy patients | <a href="https://iris.who.int/handle/10665/371646">https://iris.who.int/handle/10665/371646</a> |
| 13. | Lymphatic filariasis                 | TPP for lymphatic filariasis to support decisions for stopping triple-therapy mass drug administration                                           | <a href="https://iris.who.int/handle/10665/340080">https://iris.who.int/handle/10665/340080</a> |
| 14. | Lymphatic filariasis                 | TPP for surveillance of lymphatic filariasis                                                                                                     | <a href="https://iris.who.int/handle/10665/340081">https://iris.who.int/handle/10665/340081</a> |
| 15. | Mycetoma                             | TPP for a rapid test for diagnosis of mycetoma at primary health-care level                                                                      | <a href="https://iris.who.int/handle/10665/353979">https://iris.who.int/handle/10665/353979</a> |
| 16. | Onchocerciasis                       | TPP for mapping onchocerciasis                                                                                                                   | <a href="https://iris.who.int/handle/10665/341719">https://iris.who.int/handle/10665/341719</a> |
| 17. | Onchocerciasis                       | TPP for stopping mass drug administration                                                                                                        | <a href="https://iris.who.int/handle/10665/341719">https://iris.who.int/handle/10665/341719</a> |
| 18. | Scabies                              | TPP for starting mass drug administration                                                                                                        | <a href="https://iris.who.int/handle/10665/353981">https://iris.who.int/handle/10665/353981</a> |
| 19. | Scabies                              | TPP for stopping mass drug administration                                                                                                        | <a href="https://iris.who.int/handle/10665/353981">https://iris.who.int/handle/10665/353981</a> |
| 20. | Schistosomiasis                      | TPP for monitoring and evaluation                                                                                                                | <a href="https://iris.who.int/handle/10665/344813">https://iris.who.int/handle/10665/344813</a> |

|     | Disease                        | Subject                                                                                                           | Web link to publication                                                                         |
|-----|--------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 21. | Schistosomiasis                | TPP for transmission interruption and subsequent surveillance                                                     | <a href="https://iris.who.int/handle/10665/344813">https://iris.who.int/handle/10665/344813</a> |
| 22. | Snakebite envenoming           | TPPs for animal plasma-derived antivenoms: antivenoms for treatment of snakebite envenoming in sub-Saharan Africa | <a href="https://iris.who.int/handle/10665/369786">https://iris.who.int/handle/10665/369786</a> |
| 23. | Snakebite envenoming           | TPPs for animal plasma-derived antivenoms: antivenoms for treatment of snakebite envenoming in south Asia         | <a href="https://iris.who.int/handle/10665/378302">https://iris.who.int/handle/10665/378302</a> |
| 24. | Soil-transmitted helminthiasis | TPP for monitoring and evaluation of soil-transmitted helminth control programmes                                 | <a href="https://iris.who.int/handle/10665/342539">https://iris.who.int/handle/10665/342539</a> |
| 25. | Trachoma                       | TTPs for trachoma surveillance                                                                                    | <a href="https://iris.who.int/handle/10665/380046">https://iris.who.int/handle/10665/380046</a> |
| 26. | Yaws                           | TPP for identifying a single case of yaws                                                                         | <a href="https://iris.who.int/handle/10665/353978">https://iris.who.int/handle/10665/353978</a> |
| 27. | Yaws                           | TPP for detecting azithromycin resistance                                                                         | <a href="https://iris.who.int/handle/10665/353978">https://iris.who.int/handle/10665/353978</a> |

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# Annex 5. Global reports on neglected tropical diseases published by WHO

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*Global report on neglected tropical diseases 2024.* Geneva: World Health Organization; 2024 (<https://iris.who.int/handle/10665/376657>).

*Global report on neglected tropical diseases 2023.* Geneva: World Health Organization; 2023 (<https://iris.who.int/handle/10665/365729>).

*Integrating neglected tropical diseases in global health and development: fourth WHO report on neglected tropical diseases.* Geneva: World Health Organization; 2017 (<https://iris.who.int/handle/10665/255011>).

*Investing to overcome the global impact of neglected tropical diseases: third WHO report on neglected tropical diseases.* Geneva: World Health Organization; 2015 (<https://iris.who.int/handle/10665/152781>).

*Sustaining the drive to overcome the global impact of neglected tropical diseases: second WHO report on neglected diseases.* Geneva: World Health Organization; 2013 (<https://iris.who.int/handle/10665/77950>).

*Working to overcome the global impact of neglected tropical diseases: first WHO report on neglected tropical diseases: update 2011.* Geneva: World Health Organization; 2011 (<https://iris.who.int/handle/10665/44778>).

*Working to overcome the global impact of neglected tropical diseases: first WHO report on neglected tropical diseases.* Geneva: World Health Organization; 2010 (<https://iris.who.int/handle/10665/44440>).



