TDR annual report 2023

Building the science of solutions
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<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CDC</td>
<td>United States Centers for Disease Control and Prevention</td>
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<tr>
<td>CERCLE</td>
<td>Coalition for Equitable ResearCh in Low-resource sEttings</td>
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<tr>
<td>CHW</td>
<td>community health worker</td>
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<tr>
<td>CIP</td>
<td>Cataloguing-in-Publication data</td>
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<td>DNDi</td>
<td>Drugs for Neglected Diseases initiative</td>
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<tr>
<td>DOTS</td>
<td>directly observed treatment, short-course</td>
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<tr>
<td>ELISA</td>
<td>enzyme-linked immunosorbent assay test</td>
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<td>EWARS-csd</td>
<td>early warning and response system for climate-sensitive diseases</td>
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<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
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<td>icddr,b</td>
<td>International Center for Diarrhoeal Disease Research, Bangladesh</td>
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<td>IIHRM</td>
<td>Indian Institute of Health Management Research</td>
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<td>IR</td>
<td>implementation research</td>
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<td>IR4DTB</td>
<td>Implementation Research for Digital Technologies and TB</td>
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<td>JCB</td>
<td>TDR Joint Coordinating Board</td>
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<td>LMICs</td>
<td>low- and middle-income countries</td>
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<tr>
<td>MOOC</td>
<td>massive open online course</td>
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<tr>
<td>MSA</td>
<td>multisectoral approach</td>
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<tr>
<td>NTD</td>
<td>neglected tropical disease</td>
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<tr>
<td>RTC</td>
<td>TDR regional training centre</td>
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<tr>
<td>SEARN-TB</td>
<td>Southern and East African Regional Network for TB Control</td>
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<td>SIDA</td>
<td>Swedish International Development Cooperation Agency</td>
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<tr>
<td>SIHI</td>
<td>Social Innovation in Health Initiative</td>
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<tr>
<td>SIT</td>
<td>sterile insect technique</td>
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<tr>
<td>STAC</td>
<td>Scientific and Technical Advisory Committee</td>
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<tr>
<td>TDR</td>
<td>UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<tr>
<td>VL</td>
<td>visceral leishmaniasis</td>
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<tr>
<td>WARN/CARN-TB</td>
<td>West and Central African Regional Network for TB control</td>
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<td>WHO</td>
<td>World Health Organization</td>
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1. Introduction and background

TDR, the Special Programme for Research and Training in Tropical Diseases, is a global programme of scientific collaboration that helps facilitate, support and influence efforts to combat diseases of poverty. It is co-sponsored by the United Nations Children’s Fund (UNICEF), the United Nations Development Programme (UNDP), the World Bank and World Health Organization (WHO). This report highlights the impact of research supported by TDR to improve the health and well-being of people burdened by infectious diseases of poverty. This body of research is leading to new solutions for implementation and improved access to existing health solutions. This is the result of TDR’s strategic priority areas of research for implementation, strengthening research capacity and global engagement acting in an integrated manner.

Vision

The health and well-being of people burdened by infectious diseases of poverty is improved through research and innovation.

Mission

To support effective and innovative global health research, through strengthening the research capacity of disease-affected countries, and promoting the translation of evidence into interventions that reduce the burden of infectious diseases and build resilience in the most vulnerable populations.

The TDR Impact Pathway

- Global engagement
- Research for implementation
- Strengthening research capacity
- Identify barriers to effective interventions
- Design and effectively implement innovative solutions
- Improve the health and well-being of people burdened by infectious diseases of poverty
Opening remarks

As a scientist, I am keenly aware of the importance of evidence. For those of us working in health, this can mean endless hours of examining data, reviewing statistics, analysing numbers. But as scientists, too often we can forget the real impact our work has on people’s lives – the individuals and stories behind the numbers.

In this Annual Report, I am delighted we could share one such story of an individual - someone who is alive today thanks to research. Mohammad (Maznu) Aminul Islam was the first patient in Bangladesh to enrol in a TDR-supported study on liposomal amphotericin b, a new single-dose treatment for visceral leishmaniasis – or kala-azar – a life-threatening neglected tropical disease.

At TDR we were excited when, in October 2023, the World Health Organization announced the elimination of visceral leishmaniasis as a public health problem by Bangladesh. This is an achievement we at TDR take great pride in, given our support for research in this country over more than two decades, which informed policies to eliminate this neglected tropical disease.

As you will see in this report, there are many other examples of where TDR’s support for research and efforts to build capacity for health research has strengthened the resilience of health systems and ultimately improved lives.

Our new Strategy gives us the opportunity to take this outstanding work forward, evolving to meet the needs of the complex current environment of global health. Through an extensive consultative exercise, we have developed a strategy which will lead our work for the next six years. It will help us focus on four major global health challenges affecting infectious diseases of poverty, with One Health as an underlying cross-cutting approach: epidemics and outbreaks, control and elimination of diseases of poverty, climate change’s impact on health, and resistance to treatment and control agents.

These global health challenges will be addressed through research support, research training and global engagement. We will continue to work with researchers, implementers and social innovators to help democratize research and demonstrate that it is a useful and practical tool for people tackling health issues on the ground.

As we celebrate the 50th anniversary of TDR in 2024, I am struck by the continued relevance of TDR: not merely because many neglected diseases are yet to be eradicated, but also because of our continued commitment to principles of collaboration and mutual respect.

As always, we thank all of our donors for their continued support and their recognition that research is one of the best ways to combat infectious diseases of poverty. We also take this opportunity to thank the many organizations and individuals around the world who work with us towards universal healthcare and better health outcomes for all.
As I prepare to step down as Chair of TDR’s Joint Coordinating Board after a four-year term, I have started to reflect on the work TDR has done during my tenure. There have been many successes despite considerable challenges. And at the start of my term, we had the COVID-19 pandemic to contend with, adding a layer of complexity to TDR’s already ambitious mission.

Yet I have continued to be impressed by TDR’s commitment to championing research and innovation to address global health problems, no matter the region, no matter the hurdle. During the pandemic, the team pivoted to deliver as much as it could online. The massive open online course (MOOC) on implementation research is now available in all six official languages of the United Nations (Arabic, Chinese, English, French, Russian and Spanish). Last year alone, 4300 people (researchers, implementers and public health officers) enrolled in this MOOC. These online courses provide a vital lifeline that is easily accessible to so many people around the world interested in public health research.

TDR’s commitment to strengthening research capacity has been a constant thread. Our postgraduate training scheme provides a full academic scholarship through eight participating universities located in low- and middle-income countries (LMICs). Students obtain master’s degrees focused on implementation research on malaria, tuberculosis and neglected tropical diseases. Typically, fellows go on to establish careers in research or public health in LMICs (you can read about some of them in this report). Such support for postgraduate research training has built cadres of skilled professionals in infectious diseases of poverty across Africa, Asia and Latin America, who have become influential in research, public health and policy positions. They give me hope for the future and the potential eradication of so many infectious diseases.

I congratulate TDR on the many achievements highlighted in this report and thank all Board members and observers for their continued support to TDR. I look forward to hearing about TDR’s continued achievements under the direction of its new Chair and Board.
When I joined the World Health Organization as Chief Scientist, I was motivated by the fact that WHO is a science-centred organization where science and evidence is at the heart of what it has done for 75 years.

This is why I have always admired TDR. For two-thirds of WHO’s existence, TDR has provided the evidence to tackle some of the most insurmountable challenges of the 21st century. It is committed to advocating for the use of high-quality evidence to inform policy and to bringing about lasting change at the local level.

And there is no better example of evidence influencing policy than the recent example from Bangladesh, the first country to eliminate the deadly disease visceral leishmaniasis. Since 2005, TDR has worked with research institutions and control programmes in Bangladesh, India and Nepal to conduct research which has informed policy and practice for elimination targets. TDR has supported research on improving disease surveillance, new diagnostic tools, vector control and, ultimately, pioneering a single-dose treatment. As one of the longest and most successful implementation research programmes at TDR, these efforts have contributed to the success of the elimination of visceral leishmaniasis in the Indian subcontinent.

As Chief Scientist, my role is to support scientists and facilitate their work. It is an honour to collaborate with TDR and its passionate, global community of scientists and experts. Its mission to improve health systems through strengthening research capacity in low- and middle-income countries is commendable. Since 1974 the Programme has promoted the translation of evidence to improve interventions that reduce the burden of infectious diseases for the most under-served and vulnerable populations. I have no doubt that with the new Strategy in place, TDR will continue to improve global health for decades to come.

If we can make science at the heart of everything we do, if we can make science lived-in by countries, trusted by communities, then we’ll have fulfilled our role and made a lasting contribution. And as we learned during the recent COVID-19 pandemic, no country can solve a health problem on its own. So unless we commit to collaborating together – as scientists, researchers, public health officials – to improve public health by providing the evidence, we will never be able to solve these 21st century challenges.

I congratulate TDR on the many achievements highlighted in this report and look forward to seeing continued progress across the Programme.
2023 Progress on Select Key Performance Indicators

Technical achievements

- New solutions applied in countries:
  - 7 instances when research projects supported by TDR informed policy and/or practice in countries to tackle infectious diseases of poverty

- Tools used globally and regionally:
  - 4 instances when tools and reports are used to inform policy and/or practice of global/regional stakeholders or major funding agencies

- Research grantees and trainees:
  - 278 scientists supported through the Postgraduate Training Scheme, Impact Grants for Regional Priorities, Clinical Research and Development Fellowship, and SORT IT

Application of core values

- Gender equity:
  - 47% of peer-reviewed publications supported by TDR have women as first author
  - 49% of total research grant/contract amounts have been awarded to women

- Social and economic equity:
  - 77% of peer-reviewed publications supported by TDR have first authors from disease endemic countries
  - 88% of total research grant/contract amounts have been awarded to recipients in disease endemic countries

Management performance

- Effective management:
  - 84% of expected results on track or with minor delays
  - 100% of significant risk management action plans are on track

Introduction and background
2. Research for implementation

Building on 50 years of experience, TDR works with a vast network of researchers and implementers in low- and middle-income countries to ensure that scientific evidence is generated and translated into safe, effective, equitable and accessible solutions for populations suffering from infectious diseases of poverty. This often means studying how interventions that work in clinical trials and pilot settings can be transferred to “real life” settings and scaled up at the national level. We fund research projects that explore ways of overcoming obstacles and bridging gaps on the path from innovation to implementation, access and health impact.

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2.2 Building systems to tackle drug-resistant infections
2.3 Operationalizing a One Health approach to increase resilience to vector-borne diseases in the context of climate change

3 Research for innovation and integrated approaches

3.1 Optimizing implementation of digital technologies and other innovations
3.2 Multisectoral approach to malaria and emerging arboviral diseases
Highlights

In October 2023, WHO announced that Bangladesh is the first country in the world to eliminate visceral leishmaniasis, a life-threatening neglected tropical disease. TDR was one of the leading partners who supported research over more than two decades on new diagnostic tools and treatments and their implementation, which helped accelerate this monumental achievement.

Multisectoral approaches (MSA) for the prevention and control of vector-borne diseases have been implemented in:

7 African countries against malaria

2 countries against arboviral diseases, with evidence of impact on transmission of diseases.

An Early Warning and Response System for climate-sensitive diseases (EWARS-csd) against arboviral disease outbreaks is integrated into the national surveillance system in Mexico and is at various stages of implementation in 15 other countries. Lessons from Mexico were published in a peer-reviewed journal.

PKDL patient in Bangladesh
Credit: DNDi
A One Health approach is operationalized as a transdisciplinary ecosystem approach to addressing various diseases (including fascioliasis, schistosomiasis, vector-borne diseases) in the context of climate change through

8 projects in Africa.

A researcher leads a workshop session on One Health in Moroto, Uganda
Credit: TDR/Kizito Mudambo

A new regional network of national TB programmes in Southern and Eastern Africa (SEARN-TB) was launched, targeting 24 countries in the region.

This new network builds on the successes of the West and Central African Regional Network for TB control (known as WARN/CARN-TB).

Research articles

3 articles were published on gender and its intersection with social stratifiers in health care-seeking behaviour in Nepal and Uganda.
1. Research for implementation: Supporting universal health coverage

We support research that improves and supports sustainable and equitable implementation and scale-up of health programmes, particularly for vulnerable and hard-to-reach populations. Such research therefore contributes to achieving universal health coverage so no one is left behind. TDR is also committed to supporting the implementation of WHO’s road map for neglected tropical diseases 2021–2030, which sets out global targets and milestones to prevent, control, eliminate and eradicate a diverse set of 20 diseases and disease groups. Below we highlight research for strategies to achieve and sustain elimination of two neglected tropical diseases: visceral leishmaniasis (VL) and onchocerciasis.

1.1 Supporting efforts to eliminate neglected tropical diseases

**Objective**
To support research on strategies to achieve and sustain disease elimination

**Disease focus**
Neglected tropical diseases (visceral leishmaniasis and onchocerciasis)

**Key activities**
- Design and testing of approaches to sustain elimination of VL as a public health problem on the Indian subcontinent
- Distilling lessons from TDR-supported VL research on the Indian subcontinent for elimination efforts in Eastern Africa
- Supporting generation of data to inform WHO guidelines and country policies on implementation of moxidectin for elimination of onchocerciasis (river blindness)
- Supporting the development of a paediatric formulation of moxidectin for children too small to swallow the current tablet formulation

**Countries**
- VL: Bangladesh, India, Nepal
- Onchocerciasis: the Democratic Republic of the Congo and Ghana
2023 updates:

Visceral leishmaniasis

- One of the longest and most successful implementation research programmes at TDR, our efforts with country partners have contributed to a sharp reduction of cases in Bangladesh, India and Nepal (from over 50,000 cases in 2007 to 1,577 cases in 2021). In 2023, WHO declared that Bangladesh has eliminated VL. (See Spotlight story below.)

- New evidence has been generated on core challenges of VL elimination on the Indian subcontinent:
  - Insecticidal wall painting is the best alternative to indoor residual spraying for vector control.
  - Indigenous focal transmission of VL is occurring in new foci in Nepal.
  - Integrated surveillance for post-kala-azar dermal leishmaniasis in leprosy facilities is feasible.

- Applying lessons learned to new elimination efforts in East Africa: WHO convened a stakeholder meeting in Nairobi with over 90 participants from eight VL-endemic Member States in Africa with colleagues from South-East Asia presenting learnings. The Nairobi Declaration on VL elimination in East Africa was launched at the meeting.

Onchocerciasis

- Following completion of the paediatric dose finding and safety study in Ghana in 2022, a moxidectin dose has been identified for children aged 4–7 years (4 mg) and 8–11 years (8 mg, the same dose approved for individuals 12 years and older). This allows the inclusion of up to 200 children in the ongoing single-dose safety study.

- A new study in Ghana will measure the acceptability, feasibility and community preferences for moxidectin treatment. The results will fill gaps in the data needed to inform WHO decisions on including moxidectin in elimination guidelines.
Bangladesh and TDR celebrate elimination of visceral leishmaniasis

In October 2023, the World Health Organization announced the elimination of visceral leishmaniasis as a public health problem by Bangladesh, an achievement we at TDR take great pride in given our support for research in the country over more than two decades that informed policies to eliminate this neglected tropical disease.

Bangladesh has become the first country globally to be validated for elimination of visceral leishmaniasis or kala-azar, a life-threatening neglected tropical disease. The country achieved the elimination target of less than one case per 10,000 population at the sub-district (upazilla) level in 2017, and has sustained it to date, despite disruptions caused by the COVID-19 pandemic.

“I’d like to thank TDR for being a key partner in this achievement and for its long-time support for research that helped us understand which interventions would be effective for elimination,” said Dr M.M. Aktaruzzaman, Assistant Director and Programme Manager, Filariasis Elimination, STH Control and Kala Azar Elimination Programme, Directorate General of Health Services, Ministry of Health and Family Welfare, Bangladesh. “But this is only the beginning. We must sustain this elimination, so we need to continue to conduct implementation research to ensure this disease no longer affects the poorest of the poor.”

When I was losing hope, I decided to give it a try. I was cured by that injection.

Mohammad (“Maznu”) Aminul Islam
The first patient in Bangladesh to enrol in a TDR-supported study on liposomal amphotericin b, a new single-dose treatment for VL

Video interview with Mohammad (“Maznu”) Aminul Islam
Credit: TDR
We congratulate Bangladesh and the many scientists and partners who have contributed to this extraordinary achievement. It has been a phenomenal effort by the national disease control programme, and we are proud to have worked alongside them to achieve this landmark goal,” said TDR Director John Reeder.

You can read about this work in this profile of Dr Dinesh Mondal of the International Center for Diarrhoeal Disease Research (icddr,b), Bangladesh’s leading health research institution. Dr Mondal also presented highlights from this body of work to TDR’s Joint Coordinating Board in 2021.

“Since 2005, TDR has worked with research institutions and control programmes in Bangladesh, India and Nepal to conduct research that informs policy and practice for elimination targets. TDR has supported research on improving disease surveillance through active case detection, new diagnostic tools, single-dose treatment and vector control tools such as indoor residual spraying. One of the longest and most successful implementation research programmes at TDR, these efforts have contributed to the success of the VL elimination work on the Indian subcontinent.

Video interview with Dr Dinesh Mondal of icddr,b
Credit: TDR
1.2 Promoting the development of gender-responsive health interventions

**Objective**
To support researchers to generate new knowledge and evidence on the intersection of sex and gender with other social stratifiers that affect access to health services and health outcomes

**Disease focus**
All infectious diseases

**Key activity**
Supporting the development of gender-responsive health interventions to prevent and control infectious diseases of poverty

**Countries**
Bangladesh, Bhutan, Ethiopia, India, Kenya, Malawi, Nepal, South Africa, Uganda

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Interview with community members in Ethiopia
Credit: TDR/Solomon Tesfaye
2023 updates:

The two research teams that piloted the TDR intersectional gender analysis toolkit have both published articles on gender and its intersection with social stratifiers in health care-seeking behaviour: on lymphatic filariasis in Nepal and on TB in Uganda in Infectious Diseases of Poverty and on schistosomiasis in Uganda in PLOS Neglected Tropical Diseases.

With support from TDR, an increasing number of research teams in LMICs are incorporating an intersectional gender lens in their research:

- In Bangladesh, a study entitled “Facilitators and barriers of management of multidrug-resistant tuberculosis in Bangladesh: an implementation research through gender lens” is being conducted by the BRAC James P. Grant School of Public Health at BRAC University.
- In Ethiopia, a study entitled “Uncovering intersectional gender inequalities influencing vulnerabilities, access to and uptake of malaria services, and developing a participatory gender-responsive framework toward malaria elimination in Ethiopia” is being conducted by Jimma University.
- In Bhutan, a research team at Institute of Health Partners conducted a study entitled “Exploring the intersections of sex and gender dimensions with other social stratifies in accessing tuberculosis and dengue health care services of transgender men, transgender women, men who have sex with men and women who have sex with women in Bhutan.”
- A multi-country research consortium with teams from Kenya, Malawi and South Africa is collaborating on a study entitled “An assessment of gender and intersectionality in disease exposure, care seeking behaviour and treatment pathways in malaria and tuberculosis prevention and control in Kenya, Malawi and South Africa.”

The TDR MOOC on Incorporating an intersectional gender perspective in implementation research was offered to more than 500 scientists in collaboration with the regional training centre at the University of Ghana.

Two multidisciplinary research teams from Bangladesh (Health System and Population Studies Division of icddr,b) and India (ICMR-Regional Medical Research Centre, Bhubaneswar) conducted systematic reviews that will inform TDR’s research agenda on urban health, infectious disease and gender research.

Our catalytic role

Research tools developed by TDR are allowing more researchers to address gender aspects of infectious diseases.
2. Research for policies: Strengthening health system resilience

Developing resilient health services and systems ensures countries can effectively prevent, prepare for, detect, adapt to, respond to and recover from public health threats, while ensuring the maintenance of quality essential and routine health services in all contexts, including in fragile, conflict and violence settings. We are supporting research that can help health systems strengthen resilience in various ways – for example, by helping countries prepare for disease outbreaks; building effective systems for monitoring and responding to antimicrobial resistance; and implementing a One Health approach to tackling vector-borne diseases.

2.1 Strengthening country preparedness for disease outbreaks

**Objective**
To help countries with prediction, early detection and response to devastating disease outbreaks

**Disease focus**
Climate-sensitive diseases such as dengue, Zika, Chikungunya, yellow fever, meningitis and cholera

**Key activities**
- Establishing and strengthening the capacity of control programmes to use the Early Warning and Response System for climate-sensitive diseases (EWARS-csd)
- Supporting real-time operational research and data sharing for emergency preparedness through the Structured Operational Research and Training Initiative (SORT IT)

**Countries**
- EWARS-csd: 16 countries globally
- SORT IT: 94 countries globally

**2023 updates:**

In collaboration with WHO’s Climate Change and Health unit, TDR is supporting the implementation of EWARS-csd in the following countries: Bangladesh, Cambodia, Colombia, Dominican Republic, Ethiopia, India, Lao People’s Democratic Republic, Malawi, Malaysia, Mexico, Mozambique, Myanmar, Nepal, Oman, Timor Leste and Thailand.

Lessons from Mexico, which has fully integrated EWARS-csd into their national surveillance platform, were published in *PLOS Global Public Health*.

TDR started a new collaboration with the Eliminate yellow fever epidemics (EYE) Strategy Secretariat to address outbreak prevention and response gaps in high-risk African countries. A generic research package is being developed to facilitate root cause analyses of yellow fever outbreaks in African countries with past preventive mass vaccination campaigns. (*See Spotlight below.*)

Ten research projects on emergency preparedness were started to support health workers from the Democratic Republic of the Congo, Guinea and Liberia, using data collected during Ebola outbreaks. These research projects are focusing on surveillance, case-finding and clinical care — the key pillars of outbreak management.
TDR supports Cameroon to eliminate yellow fever epidemics

TDR participated in an investigation to understand the resurgence of yellow fever in Cameroon, respond early to outbreaks and work towards eliminating epidemics by 2026.

In December 2023, in the Public Health Emergency Operations Coordination Center premises in Yaoundé, Cameroon, representatives from governmental departments and public health organizations came together for a workshop to discuss findings from in-depth evaluations on yellow fever resurgence in the country.

Cameroon is one of the 27 high-risk countries for yellow fever in Africa and was ranked second in 2023. The Government of Cameroon has shown that it is committed to the fight against yellow fever.

Cameroon introduced the yellow fever vaccine into its routine immunization schedule in 2004 and has conducted nationwide Preventive Mass Vaccination Campaigns. Points of entry into the country, such as airports, require evidence of yellow fever vaccination, which are mandatory for all travellers. Despite these measures, yellow fever cases have been reported since 2020 in multiple districts.

To analyse the root cause of this resurgence, the EYE Strategy and TDR supported the Ministry of Public Health of Cameroon in an evaluation process. The EYE Strategy is a global coalition of 50 partners in 40 countries, including WHO, the United Nations Children’s Fund (UNICEF) and Gavi, the Vaccine Alliance.

Among the activities that took place was a review of key documents, including vaccination coverage data and work sessions with a national technical committee with representatives from health departments, as well as interviews with representatives from the Ministry of Public Health, the Ministry for the Environment, Nature Conservation and Sustainable Development, the Ministry of Forestry and Wildlife, UNICEF, Centre Pasteur du Cameroun, the United States Centers for Disease Control and Prevention (CDC) and the Centre for Research on Infectious Diseases.

An analysis was also undertaken to identify immunity gaps in the population. The number of individuals not protected against yellow fever was estimated in each district, including vulnerable populations. This root cause analysis will inform efforts to strengthen the routine immunization programme and ensure vaccination with a high coverage rate.

Read the full story here.
2.2 Building systems to tackle drug-resistant infections

**Objective**
To build country resilience to the threat of drug-resistant infections

**Disease focus**
Antimicrobial resistance, drug-resistant tuberculosis

**Key activities**
- Build sustainable operational research capacity to generate and utilize evidence to tackle the emergence, spread and health impact of antimicrobial resistance (AMR) in LMICs (the AMR–SORT IT project)
- Support research to assess the effectiveness, safety, feasibility, acceptability, cost and impact of the use of novel regimens for patients with extensively drug-resistant tuberculosis (the ShORRT initiative)

**Countries**
AMR–SORT IT: Colombia, Ecuador, Ghana, Liberia, Myanmar, Nepal and Sierra Leone
ShORRT: 27 countries globally

**2023 updates:**

The AMR–SORT IT network was expanded to 73 implementing partners in 30 countries in Asia, Africa, the Americas and Europe, making it the largest partnership of AMR institutions in the world. Eighty-one percent of these institutions are based in the Global South.

Ten papers were published in a special issue of the *Tropical Medicine and Infectious Disease* journal entitled “Accelerating progress towards ending TB/MDR-TB and strengthening the operational research capacity of the national tuberculosis control programme in Kyrgyzstan.”

Twenty-seven countries are currently conducting operational research on Short, all-Oral Regimens for Rifampicin-resistant Tuberculosis using the ShORRT research package. A generic statistical analysis plan was developed to inform a standardized approach to analysis of key treatment effectiveness, safety and quality-of-life outcomes at the end of treatment and follow-up periods.
Achievements of the AMR-SORT IT project since 2019

- 87 research studies completed in seven countries
- 80 published articles and three editorials
- 73 implementing institutions became part of the AMR-SORT IT partnership
- 28% of AMR trainees became mentors after one training cycle
- 92% of trainees are applying skills acquired through SORT IT to tackle AMR
- 55% of trainees are applying skills acquired through SORT IT to emerging infections (COVID-19)
- 62% of trainees completed a new research study

2.3 Operationalizing a One Health approach to increase resilience to vector-borne diseases in the context of climate change

**Objective**
To operationalize a multisectoral, transdisciplinary approach to vector-borne diseases that recognizes the interconnection between the health of people, animals and plants and their shared environment. The approach ensures collaboration and coordination among all relevant sectors and stakeholders to achieve better health outcomes

**Disease focus**
Vector-borne diseases including malaria, Rift Valley fever and sleeping sickness

**Key activities**
- Developing and piloting a framework for operationalizing a One Health approach in African countries
- Developing and implementing an online training course on One Health

**Countries**
Kenya, Nigeria, Rwanda, Senegal, South Africa, Uganda and the United Republic of Tanzania
2023 updates:

Four research proposals were selected and initiated to address One Health implementation research priorities for vector-borne diseases (VBDs) in the context of climate change in Africa. This followed a joint call for proposals launched by TDR, WHO’s Department of Control of Neglected Tropical Diseases and the Climate, Health and Environment team at the WHO Regional Office for Africa. (See Spotlight below)

- **Project 1:** Strengthening surveillance of leishmaniasis in Uganda and Kenya through a collaborative multisectoral One Health capacity building approach in endemic foci (Uganda and Kenya)
- **Project 2:** Enhancing One Health surveillance and control of vector-borne diseases related to climate change in the West Africa region (Senegal and Nigeria)
- **Project 3:** One Health approach to controlling and understanding the dynamics of fascioliasis and schistosomiasis in the context of climate change (the United Republic of Tanzania and Rwanda)
- **Project 4:** Application of a One Health approach for reducing the burden of vector-borne diseases in vulnerable communities in the context of climate change (South Africa and Rwanda)

An online curriculum for operationalizing One Health was developed and pilot-tested in Kenya, with 23 participants within the collaborating consortia.

*Community members fetch water in Tanzania*
*Credit: TDR/A. Craggs*
Spotlight

Scaling up the One Health approach in Africa

Alongside various environmental and social factors, climate change plays a significant role in the rising burden of VBDs. Climate change can provide temperature-sensitive vectors and pathogens with ideal environmental conditions for their optimal development and survival and can thus increase the geographical spread and transmission of VBDs. The study of ecological factors such as habitats and the interface of human, vector and host species is therefore crucial for understanding disease ecology and determining how best to control, manage and prevent VBDs.

“In an age where climate change poses one of the greatest threats to humanity, environmental considerations are crucial in gaining a full picture of VBD dynamics.”

Dr Brama Kone
Technical Officer
Climate, Health and Environment team at WHO’s Regional Office for Africa

Goat farmers at Hula Hula Springs in Marsabit County, Kenya
Credit: WHO/B. Miaron
In July 2022, a joint TDR/WHO call for research proposals was issued for consortiums of collaborating institutions in Africa to address One Health implementation research priorities for VBDs in the context of climate change. Four projects have now been selected from the applications (Fig. 1).

These selected projects will contribute to WHO’s 2021–2030 road map for neglected tropical diseases, to the WHO Regional Office for Africa’s 2019–2029 strategic action plan to scale up health and environment interventions in Africa, and its 2022–2032 updated regional strategy for the management of environmental determinants of human health in the WHO African Region.

### Supporting countries to put the One Health approach into practice

Over the last few years, TDR has been developing and piloting a framework for operationalizing a One Health approach in African countries. Four pilot studies were completed in 2022, and TDR is now scaling up the implementation of the One Health approach.

In July 2022, a joint TDR/WHO call for research proposals was issued for consortiums of collaborating institutions in Africa to address One Health implementation research priorities for VBDs in the context of climate change. Four projects have now been selected from the applications (Fig. 1).

These selected projects will contribute to WHO’s 2021–2030 road map for neglected tropical diseases, to the WHO Regional Office for Africa’s 2019–2029 strategic action plan to scale up health and environment interventions in Africa, and its 2022–2032 updated regional strategy for the management of environmental determinants of human health in the WHO African Region.

#### Senegal and Nigeria
Enhancing One Health surveillance and control of vector-borne diseases related to climate change in the West Africa region

#### Uganda and Kenya
Strengthening surveillance of leishmaniasis in Uganda and Kenya through a collaborative multisectoral One Health capacity building approach in endemic foci

#### South Africa and Rwanda
Application of a One Health approach for reducing the burden of vector-borne diseases in vulnerable communities in the context of climate change

#### The United Republic of Tanzania and Rwanda
One Health approach to controlling and understanding the dynamics of fascioliasis and schistosomiasis in the context of climate change

*Fig. 1. The four selected projects and countries involved in the collaborative research consortia*
3. Research for innovation and integrated approaches

Realizing the potential impact of innovations for health requires an understanding of the complex environments in which they will be put to use. Implementation research is uniquely placed as an approach to systematically explore these challenges and generate new evidence to guide the optimal use and scale-up of innovations. To support such research, TDR has been developing new research tools and approaches. These aim to optimize the implementation of innovations such as digital technologies for health and support implementation of a multisectoral approach to tackling vector-borne diseases.

3.1 Optimizing implementation of digital technologies and other innovations

**Objective**
To support the implementation and scale-up of digital technologies for health and innovative strategies for vector-borne diseases

**Disease focus**
Drug safety monitoring, TB, dengue, chikungunya, Zika, malaria

**Key activities**
- Piloting and evaluating digital health tools for drug safety monitoring
- Developing and promoting the use of a toolkit for evaluating the implementation and scale-up of digital innovations for TB care (IR4DTB) and supporting its use by national TB programmes
- Developing a research toolkit to support the effective use and implementation of computer-aided detection (CAD) software for TB
- Supporting the testing of innovative vector control technologies, such as the Sterile Insect Technique (SIT), to target vector-borne diseases (dengue, Zika and chikungunya)
- Supporting research on implementation of a promising malaria self-diagnosis and self-treatment kit for hard-to-reach populations in Brazil, French Guiana and Suriname (the Malakit project)

**Countries**
- Drug safety monitoring: Burkina Faso, Ghana, Malawi, the Philippines and Uganda
- Digital tools for tuberculosis: Armenia, Georgia, Ghana, Moldova, Romania, Ukraine, Uzbekistan and West and Central African countries participating in WARN/CARN-TB
- SIT: Cook Islands, Easter Island and French Polynesia
- Malakit: Brazil, French Guiana and Suriname
2023 updates:

The Implementation Research for Digital Technologies and TB (IR4DTB) toolkit was used as the central teaching tool for a week-long workshop for national TB control programme staff in African countries. Following the workshop, 16 implementation research proposals were produced and 11 are now receiving financial and technical support to conduct research to test, evaluate and/or scale up new digital technologies for national TB response efforts.

TDR supported Burkina Faso’s national TB programme to introduce and evaluate 99DOTS, a digital tool used to reduce the frequency of patients’ trips to and from the health facility as part of the requirements of directly observed treatment, short-course (DOTS), by monitoring treatment adherence from a distance.

Scientists in Tahiti have launched a research project to test SIT in French Polynesia, where the impact of the technology on dengue transmission will be measured for the first time. (See Spotlight story below.)
Scientists in Tahiti prepare to release sterilized mosquitoes to control dengue

Scientists in Tahiti have launched a research project to test the Sterile Insect Technique (SIT) in French Polynesia, where the impact of the technology on dengue transmission will be measured for the first time. This is part of a global research initiative supported by TDR, the International Atomic Energy Agency (IAEA), WHO and CDC, to trial innovative, environmentally friendly solutions to disease control.

SIT is a form of insect birth-control using irradiation. The process involves breeding and segregating billions of male mosquitoes in dedicated facilities, sterilizing them with X-rays and then releasing them to mate with females in the wild. As the females don’t produce any offspring, the insect population declines over time. The technology has been used in the agriculture sector for decades, with great impact and low environmental risk, and is now being applied to target human diseases transmitted by mosquitoes, such as dengue.

In 2020, TDR, IAEA and WHO published a guidance document for countries that have expressed interest in testing SIT to target Aedes mosquitoes. Following an open call for proposals, four multi-country research consortiums were selected. With financial support from TDR and CDC, the Institut Louis Malardé in Tahiti, which is leading one of the selected research consortiums, is planning to start weekly releases of sterilized male mosquitoes for one year in French Polynesia from July 2024. Preparations include training of personnel on breeding and sterilizing the mosquitoes, engaging the local community to accept the field trial and organizing data collection plans.

In French Polynesia and the Cook Islands, measuring the impact will include sampling 600 adults randomly selected in the intervention and control sites to test for dengue antibodies when the sterile male mosquitoes are released and six months later. In addition to this epidemiological data, the impact of SIT on insect species other than Aedes mosquitoes will also be tracked.

“Given the long history of farmers using SIT to target pests, we see great potential in applying this technology to alleviate the burden of mosquito-borne diseases in humans.”

Dr Randall Nett
Chief of the Arboviral Diseases Branch
United States Centers for Disease Control and Prevention

“The Sterile Insect Technique offers an innovative approach to controlling mosquitoes that transmit dengue,” said Dr Hervé Bossin, the principal investigator at Institut Louis Malardé. “We find it to be a promising alternative to other methods such as insecticides, as mosquitoes are developing resistance to them.”

Listen to a radio news story on this project produced by ABC Pacific.

Jérôme Marie, a research engineer at the Institut Louis Malardé, in front of a sterile insect irradiator
Credit: TDR/Temoana
3.2 Multisectoral approach to malaria and emerging arboviral diseases

Objective
To support efforts to prevent and control vector-borne diseases through a multisectoral approach; implement MSA case studies in several countries; and establish collaborations with non-health sectors

Disease focus
Malaria and emerging arboviral diseases

Key activities
• Train stakeholders from national malaria and other vector-borne disease control programmes on how to implement an MSA
• Implement MSA case studies on vector-borne disease control in several countries.
• Establish collaborations with sectors other than health to prevent and control vector-borne diseases

Countries
Bangladesh, Benin, Brazil, Burkina Faso, Cambodia, Ecuador, Mali, Nigeria, Senegal, the United Republic of Tanzania, Viet Nam and Zambia

What is a multisectoral approach?
It is increasingly recognized that the prevention and control of many diseases, including vector-borne diseases, must be driven by more than just the health sector alone. In the context of the inter-related Sustainable Development Goals, efforts to tackle vector-borne diseases require input from sectors such as water and sanitation, agriculture, housing and education.

Our catalytic role
TDR in 2020 published a conceptual framework covering the essential elements of successful multisectoral collaborations. TDR is now supporting research teams in LMICs that are piloting MSA implementation.
Below is a summary of the steps within this overall project:

<table>
<thead>
<tr>
<th>Years</th>
<th>Activities</th>
<th>Outputs/outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016–2017</td>
<td>Building partnerships around MSA</td>
<td>Workshop held in Geneva</td>
</tr>
<tr>
<td>2017–2019</td>
<td>Commissioned reviews supported</td>
<td>Special Issue published</td>
</tr>
<tr>
<td>2019–2023</td>
<td>Collaboration with WHO’s Water, Sanitation and Health team</td>
<td>Three case studies selected and completed</td>
</tr>
<tr>
<td>2021–2023</td>
<td>Collaboration with WHO’s Global Malaria Programme</td>
<td>One case study selected and completed, MSA training workshop held in Senegal</td>
</tr>
</tbody>
</table>

2023 updates:

Multisectoral approaches against prevention and control of vector-borne diseases have been implemented in seven African countries against malaria and two countries against arboviral diseases, with evidence of impact on transmission of disease.

A training workshop on MSA for the prevention and control of vector-borne diseases was held in Senegal, with representatives from Burkina Faso, China, Côte d’Ivoire, France, Ghana, Mali, Niger, Portugal, Senegal, the United Republic of Tanzania, the United States of America and Zambia.

Module 1 of a [Massive Open Online Course (MOOC) on MSA](#) was made available online in English and French. Modules 2 to 6 are in development.
Research capacity strengthening activities are at the heart of the TDR Strategy 2018–2023. Within the context of the TDR vision, the overall goal is to strengthen the capacity of individuals, institutions and societies to produce research evidence that is useful for reducing the burden of infectious diseases of poverty in low- and middle-income countries. Collaborations with partner universities and training institutions in these countries are critical to jointly achieving this goal.

Contents

1 Building the capacity of the next generation of researchers and global health leaders

2 Implementation research training courses and tools

3 Fostering learning, collaboration and IR leadership through regional training centres

4 Strengthening capacity to conduct clinical trials in low- and middle-income countries

5 The Access and Delivery Partnership
**Highlights**

486 students have obtained Master of Public Health degrees through TDR’s postgraduate training scheme, focused on implementation research.

8 universities in low- and middle-income countries affiliated with TDR’s research capacity strengthening programmes have co-developed a curriculum on implementation research for integration within Master of Public Health programmes.

Participants in a workshop to develop an IR curriculum in Jaipur, India

Credit: TDR/M. Tekchandani
Highlights

New implementation research training materials have been developed on community engagement, social innovation and ethics, as well as case examples on:

- **trachoma** in Ethiopia,
- **COVID-19 vaccination** in Ghana and
- **Chagas disease** in Ecuador.

- TDR-supported regional training centres (RTCs) managed 8 sessions of the TDR MOOC on implementation research, delivered in English, French, Russian and Spanish to more than 4300 registered participants.

- They also conducted 40 in-person scientific courses for 1257 students; 64% were women.

The first cohort of 20 Clinical Research Leadership fellows were selected out of 437 eligible applicants.
1. Building the capacity of the next generation of researchers and global health leaders

TDR’s Postgraduate Training Scheme provides a scholarship for master’s degree training focused on implementation research, in collaboration with competitively selected universities located in low- and middle-income countries LMICs. The scheme has built cadres of skilled professionals in infectious diseases of poverty across Africa, Asia and Latin America who have become influential professionals in academia and public health.

Postgraduate training scheme

Objective
To provide support for postgraduate research training in LMICs, with a focus on implementation research on malaria, tuberculosis and neglected tropical diseases

Target audience
LMIC nationals interested in developing a career in implementation research on infectious diseases of poverty

Countries
Partner universities in Bangladesh, Colombia, Ghana, India, Indonesia, Lebanon, Mali, Senegal, South Africa and Zambia

Gender distribution
Among 486 Master’s students trained since 2015, 240 are women (49.8%), 245 are men (50.8%) and one (0.2%) is transgender. Of the eight PhD students, one is a woman.
### International reach of the Postgraduate Training Scheme

![Map of countries involved in the Postgraduate Training Scheme]

- **Total worldwide since 2015**: 486 Master’s students trained

### Number of master’s students trained at partner universities in the postgraduate training scheme

<table>
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>56 students from Latin America</td>
<td>50 students from West Africa</td>
<td>49 students from Africa</td>
<td>34 students from Africa</td>
<td>57 students from Africa</td>
</tr>
</tbody>
</table>

- 6. 19 students from Africa
- 7. 33 students from Eastern Mediterranean
- 8. 90 students from Asia
- 9. 15 students from Asia
- 10. 83 students from Asia

**Strengthening research capacity**
2023 updates:

University of Sciences, Techniques and Technologies of Bamako, Mali, which joined the training programme in 2022, selected 19 students out of 1200 applicants from French-speaking countries in West Africa.

TDR, with support from Canada's International Development Research Centre, is strengthening capacity to conduct implementation research using a One Health approach to investigate the impact of climate change on health. Four students were selected to enroll in the Master of Public Health programme at the Université Cheikh Anta Diop in Dakar, Senegal.

Our unique approach

TDR provides scholarships for postgraduate research training in partnership with public health schools in low- and middle-income countries selected through a competitive process.
From physician to Deputy Chief Medical Officer in Senegal

In recent years, TDR has been responding to significant demand from African scientists for research training in French. TDR now partners with two universities in West Africa to provide training, in Senegal and Mali. Here we profile Dr Oumy Kaltome Boh, who received a scholarship from TDR in 2020.

Dr Boh is Deputy Chief Medical Officer in the health district of Saint-Louis, Senegal, and has been interested in the burden of neglected tropical diseases (NTDs) since her formative years. Already a physician, she wanted to undertake a Master’s degree so that she could research how to tackle NTDs through innovative interventions. She did this at Cheikh Anta Diop University in Senegal, one of the TDR-supported RTCs and a partner in the postgraduate training scheme.

Benefiting from a TDR grant in 2020, Dr Boh studied the day-to-day lifestyle practices and environmental factors that make schistosomiasis (bilharzia) transmission more likely in endemic areas of her home country. In collaboration with Senegal’s national NTD control programme, she also examined the effectiveness of praziquantel, the only treatment option currently available for schistosomiasis.

Recruited to her current post by the Ministry of Health and Social Action, she stresses that it was through the support of TDR’s Postgraduate Training Scheme that she acquired the skills needed to manage the district’s public health challenges. Learning about community-based approaches allowed her to better understand the specific needs and problems of the district.

"With the help of TDR grants, students gain exposure to critical health programmes and learn to pool their skills to end the neglect of poverty-related diseases and to achieve the Sustainable Development Goals," Dr Boh said.

Read her full story here.
## 2. Implementation research training courses and tools

Over the years, TDR has collaborated with global partners to develop a suite of flagship training courses relevant to implementation research. These materials are aimed at improving access to, and delivery of, public health strategies and interventions. The objective and target audience for each course are detailed below.

### TDR’s IR training tools

<table>
<thead>
<tr>
<th>Tool</th>
<th>Objective</th>
<th>Target audience</th>
<th>Number of participants (2023)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOOC in IR</td>
<td>To provide an introduction to all concepts and principles in IR</td>
<td>• Researchers • Implementers • Public health officers</td>
<td>4300</td>
</tr>
<tr>
<td>Basic principles in IR</td>
<td>To build upon skills learnt in the MOOC</td>
<td>• Researchers • Implementers • Public health officers</td>
<td>468</td>
</tr>
<tr>
<td>Ethics in IR</td>
<td>To provide an introduction to all concepts and principles in IR projects</td>
<td>• Researchers • Ethic review committees</td>
<td>72</td>
</tr>
<tr>
<td>IR toolkit</td>
<td>To develop a strong IR project proposal and a plan for its implementation</td>
<td>• Researchers • Implementers • Public health officers</td>
<td>58.890 views</td>
</tr>
<tr>
<td>Good clinical practices</td>
<td>To instruct and promote the principles of good clinical practices, particularly in countries where infectious diseases of poverty are endemic</td>
<td>• Researchers • Implementers • Public health officers</td>
<td>245</td>
</tr>
<tr>
<td>Effective project planning and evaluation</td>
<td>To enhance the abilities of investigators and health professionals in planning, organizing, managing and evaluating their health research projects</td>
<td>• Researchers • Implementers • Public health officers</td>
<td>133</td>
</tr>
</tbody>
</table>
2023 updates:

TDR-supported RTCs managed eight sessions of the MOOC on implementation research, delivered in English, French, Russian and Spanish to more than 4300 registered participants, and conducted 40 in-person scientific courses for 1257 students, 64% of whom were women.

More than 500 individuals globally registered for the MOOC on “Incorporating an intersectional gender perspective in implementation research,” facilitated by the RTC in Ghana.

The ethics in IR training course was disseminated across the TDR university networks.

Eight universities in low- and middle-income countries affiliated with TDR’s research capacity strengthening programmes have co-developed a curriculum on implementation research for integration within Master in Public Health programmes.

New implementation research training modules, online courses, training documents and IR advocacy videos have been completed. The new training materials cover community engagement, ethics in IR and social innovation.

New case examples on trachoma in Ethiopia, COVID-19 vaccination in Ghana and Chagas disease in Ecuador, expand the geographical and disease representation within TDR’s online training content. These case examples are centred around localized video content and were developed in direct response to MOOC participants’ demand for additional in-depth examinations of IR projects on NTDs. (See Spotlight below.)

A guide on How to conduct a scoping review has been developed in English, French and Mandarin, with accompanying instructional videos in English and French.

The web-based IR Toolkit has been translated into Russian.

The following are in development: IR ethics MOOC, IR toolkit module on One Health and a One Health MOOC in French contextualized to West Africa.
Eight universities in low- and middle-income countries affiliated with TDR’s research capacity strengthening programmes have co-developed a standardized curriculum on implementation research.

IR has been an academic training focus in many high-income countries in recent years. While it is a recognized tool for addressing health system bottlenecks to effective use of existing interventions, access to training and leadership in IR has not been equitable. Many LMICs face a lack of resources related to IR.

To respond to this need, TDR collaborated with the Bloomberg School of Public Health at Johns Hopkins University and the institutions affiliated with TDR’s postgraduate training scheme and RTCs to develop a standardized IR curriculum specifically tailored to the needs and contexts of learners in LMICs.

With contributions from HRP (the UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction), IR core competencies across training programmes were evaluated. This revealed coverage and quality gaps that are being addressed by the standardized curriculum.

In April 2023, 25 senior faculty members from eight universities met for a 5-day workshop hosted by the Indian Institute of Health Management Research (IIHMR) to finalize the lecture content for the IR curriculum, which went through two rounds of external reviews. The eight universities are as follows:

- Universidad de Antioquia, Colombia
- University of Ghana, Ghana
- IIHMR University, India
- Cheikh Anta Diop University of Dakar, Senegal
- University of the Witwatersrand, South Africa
- Brac University, Bangladesh
- Universitas Gadjah Mada, Indonesia
- University of Sciences, Techniques and Technologies of Bamako, Mali

"TDR’s training programmes focus on strengthening the capacity of not only individuals but also of institutions, and this joint initiative exemplifies this objective," said Dr Mahnaz Vahedi, Scientist at TDR who manages the Postgraduate Training Scheme.

Read more [here](#).

"We are trying to develop the field of implementation science and integrate it within health systems."

Dr S.D. Gupta
Trustee Secretary
Indian Institute of Health Management Research

Representatives from the different universities in Jaipur, India
Credit: TDR/M. Tekchandani
Illustrating implementation research through a case study on Chagas disease in Ecuador

Responding to feedback from scientists participating in TDR’s implementation research MOOC requesting more diverse case examples, TDR collaborated with Professor Esteban Baus of the Pontifical Catholic University of Ecuador, to create a case example on IR for Chagas disease. TDR commits to developing contextualized training materials to meet the demand of our learners.

Professor Baus, an expert in both community-based health research and documentary filmmaking, created an immersive educational experience in Spanish, providing practical insights into planning and conducting IR. This new case example enriches the MOOC and highlights the realities of rural populations who are regularly at risk of contracting Chagas disease. The example demonstrates the application of IR methods in a South American context, offering learners a high-quality demonstration of how real-world IR challenges are identified and how subsequent solutions are developed.

“Sharing our experience in conducting IR for Chagas helps bridge the gap between theoretical knowledge and practical implementation,” said Professor Baus. “Through this collaboration with TDR to create this case example, we hope that the new generation of implementation researchers can develop context-specific strategies for delivering community health interventions.” This partnership highlights TDR’s dedication to tailoring our training approach to the needs of learners globally, ensuring that they are both relevant and engaging.

Sharing our experience in conducting IR for Chagas helps bridge the gap between theoretical knowledge and practical implementation.

Professor Esteban Baus
Pontifical Catholic University of Ecuador

Researcher and Ministry of Health personnel looking for kissing bugs in a chicken coop, Loja province, southern Ecuador
Credit: TDR/Esteban Baus Carrera

Ministry of Health technician collecting kissing bugs in a chicken coop, Loja province, southern Ecuador
Credit: TDR/Esteban Baus Carrera
3. Fostering learning, collaboration and IR leadership through regional training centres

TDR supports institutional capacity strengthening in IR, in collaboration with regional training centres (RTCs) located in all six WHO regions. The TDR-supported RTCs develop, contextualize and disseminate TDR’s portfolio of implementation research training courses through online, face-to-face and hybrid modalities. They in turn support satellite institutions in their respective regions. Train-the-trainer workshops empower these RTCs to address region-specific needs and foster learning and collaboration within and across regions.

Regional training centres

Objectives

- To enable skills development and knowledge sharing by conducting, managing and disseminating TDR’s portfolio of IR training courses
- To foster regional networks of health researchers and empower local actors to design, plan and carry out high-quality implementation research

Countries

Colombia, Ghana, Indonesia, Kazakhstan, Malaysia, Senegal and Tunisia

Regional training centres (RTCs)
2023 updates:

All seven RTCs offered at least two trainings on implementation research or good health research practice through a mix of in-person and hybrid courses, for a total of 1257 trained individuals, among whom 802 identified as women (64%).

Additional satellite training institutions in the Western Pacific, Eastern Mediterranean and West Africa regions are currently being identified to add to the 18 functional satellite centres operating globally.

4. Strengthening capacity to conduct clinical trials in low- and middle-income countries

Complementing our training programmes on research for implementation, TDR has been offering the Clinical Research and Development Fellowship programme since 1999. Since 2023, this programme focuses on clinical research leadership to develop internationally recognized clinical research leaders in low- and middle-income countries. Selected fellows are placed for 12 months in training partner organizations (pharmaceutical companies, product development partnerships or research organizations) and then receive a reintegration grant for 12 months at their home institution. The fellowship is funded through a grant from the Bill & Melinda Gates Foundation.

The new programme has three key features: i) it is customized to the needs of individual fellows regarding the relevant leadership and research competencies; ii) its flexible mentoring approach is suitable for fellows with family responsibilities; and iii) it maximizes opportunities for remote interaction.

Clinical Research Leadership programme

Objective
To develop internationally recognized clinical research leaders in low- and middle-income countries

Target audience
Early- to mid-career researchers in low- and middle-income countries

2023 updates:

16 fellows from the last round of the Clinical Research and Development Fellowship programme completed their placement in 2023.

A call for applications for the Clinical Research Leadership programme was announced in March 2023. Twenty fellows (6 men and 14 women) were selected from 437 eligible applications from 55 countries; they will start their placements in 2024.
Below are some of the selected TDR Clinical Research Leadership fellows:

**Dr Natalia Gladys Vargas Herrera**
*COVID-19 vaccine researcher, SARS-CoV-2 genomic surveillance member, and HIV clinician at Via Libre*

**Host Institute:** GlaxoSmithKline Biologicals SA, Belgium

**Activities:** Clinical Research Leadership

**Objective:** Develop expertise, particularly in a male-dominated Field, and establish a vaccine institute at my institution.

**Dr Jack Tsulokpa Zawadi**
*Clinical Trials Specialist and Evidence Synthesis Expert*

**Host Institute:** Drugs for Neglected Diseases initiative (DNDi), Switzerland

**Activities:** Clinical Trials in Helminth Diseases

**Objective:** To prepare for leadership roles in helminth disease clinical trials.

**Dr Pearl Entsua Mensah (PharmD)**
*Pharmacist with clinical trial experience, conducting GCP inspections and assisting with GCP trainings at Ghana FDA’s Clinical Trials Department*

**Host Institute:** BioNTech, Germany

**Activities:** Clinical Development

**Objective:** Engage in impactful research, acquire essential skills, expand my network, and contribute to global health while enhancing personal and professional growth.
5. The Access and Delivery Partnership

**Objective**
To help countries strengthen policies, human capacities, systems and regulations to ensure that effective medicines, vaccines and diagnostics reach the people who need them.

**Collaborators**
The Access and Delivery Partnership (ADP) is a collaboration between UNDP, the WHO Department of Regulatory Systems Strengthening, TDR and PATH, and is funded by the Government of Japan. TDR’s role is to work with ADP focus countries to strengthen institutional capacity in the areas of priority setting, implementation research and drug safety monitoring.

**Focus countries**
Bhutan, Burkina Faso, Ghana, India, Indonesia, Malawi, Senegal, the United Republic of Tanzania and Thailand, as well as other LMICs that have benefited from ADP’s South-South technical exchanges and outreach.

**2023 updates:**

**Ghana:** The University of Ghana’s School of Public Health and its IR partners based in the Ghana Health Service conducted three demonstration IR projects. Three peer-reviewed articles have been published and one is undergoing peer review. The demonstration projects have enhanced IR knowledge acquisition and the application of competencies.

**United Republic of Tanzania:** The National Institute for Medical Research, Neglected Tropical Diseases Control Programme (NTDCP), Ministry of Health and regional and district NTD coordinators, developed and submitted a manuscript describing their experiences of incorporating IR in the national NTDCP operational plan, in line with the WHO NTD roadmap 2021–2030, as part of the health sector strategic plan V (2021-2026). In 2024, a joint TDR/PATH dissemination workshop is planned.
TDR is at the interface between research and health care delivery. An essential part of TDR’s work is to engage with the global health community to promote and facilitate the role of research for development and to advocate for the use of high-quality evidence to inform policy.

TDR’s unique position within the United Nations family through its co-sponsors (UNICEF, UNDP, the World Bank and WHO), allows it to create a bridge from local communities to the World Health Assembly, enabling the broadest possible scope of dialogue and debate across the spectrum of health research – from priority setting to evidence-based policy-making at local, national, regional and global levels.

Contents

1 Collaborating with WHO regional offices on research grants
2 Leveraging the TDR Global network for collaboration, mentoring and capacity building
3 Promoting and researching social innovations to improve health care delivery
4 Shaping the research agenda
5 Promoting effective engagement in gender and equity
6 Harmonizing investments in research capacity and research management
Highlights

27 implementation research projects were awarded impact grants in collaboration with WHO regional offices.

A crowdsourcing open call identified innovative strategies to enhance equity and inclusivity in research mentorship programmes in LMICs.

3 finalists were chosen and invited to a series of designathon workshops to refine the strategies and support preparations for their implementation.

TDR provided technical assistance to WHO-led priority setting exercises, including those pertaining to One Health, antimicrobial resistance in human health, health and migration and a research roadmap for NTDs.
Highlights

Selection of the second cohort of the Social Innovation in Health Initiative Global Fellow Programme was announced in early 2023.

Through a collaboration with the UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP), a virtual repository of resources has been launched to support efforts to incorporate sex and gender in health research.

A new guide for effective capacity strengthening for funders was published in collaboration with the Liverpool School of Tropical Medicine.
1. Collaborating with WHO regional offices on research grants

TDR’s Impact Grants for Regional Priorities support researchers and public health practitioners as part of TDR’s collaboration with all WHO regional offices.

Since 2014 the focus has been on implementation research, with each WHO region and TDR jointly identifying the research priorities to be funded.

Impact Grants for Regional Priorities

- **Objective**
  To produce implementation research findings that can help build national strategies and action plans for better control and treatment of infectious diseases of poverty

- **Disease focus**
  Infectious diseases of poverty including malaria, tuberculosis and neglected tropical diseases

- **Key activity**
  Provide small grants ranging from US$ 10 000 to $20 000 with a focus on implementation research

- **Countries**
  The scheme has included all WHO regions since 2016, with grants being implemented and managed by the WHO regional offices for Africa, the Americas, South-East Asia, Europe, the Eastern Mediterranean and the Western Pacific

2023 updates:

Calls for proposals were issued in the WHO Africa, Americas, Western Pacific and South-East Asia regions.

Impact grants were awarded for 27 implementation research projects.

A health worker at a tuberculosis health service in Ulaanbaatar, Mongolia, orients TB patients

Credit: WHO/K. Sandag
Several studies supported by TDR’s Impact Grants for Regional Priorities explored policies and practices related to Zika virus outbreaks. These implementation research studies primarily investigated maternal, sexual and reproductive health topics to improve future public health policies and strategies for an emergency response to the virus.

Over the past two decades, serious outbreaks of Zika virus infection have occurred in Africa, the Americas, South-East Asia and the Western Pacific. Brazil bore the greatest disease burden as a result of the virus during 2015–2016, with more than 200,000 cases of Zika virus infection and 8,600 babies born with malformations.

The TDR-funded studies assessed different aspects of Zika virus outbreaks in six Latin American countries. Highlights from some of the studies are shared below:

**Colombia: Pregnant women’s access to health services during the Zika epidemic**

This research found that access to services was delayed during the epidemic, and most of the study participants made out-of-pocket payments to access services that were not provided. The researchers recommend that policy-makers utilize the results to develop and implement public policies that adapt and respond to pregnant women’s priorities and needs.

**Mexico: Rapidly distinguishing Zika virus from dengue fever**

This research team evaluated a non-commercial enzyme-linked immunosorbent assay test (ELISA) to accurately detect the anti-Zika virus immunoglobulins which distinguish Zika virus infection from dengue fever. The research team commented that this testing approach could benefit public health services in countries with a high incidence of both dengue and Zika viruses by helping to accurately differentiate one from the other.

*Read the full news article [here](#).*
2. Leveraging the TDR Global network for collaboration, mentoring and capacity building

Over the years, TDR has contributed to the development of a global community of leaders and agents of change who are showing how research can improve the health and well-being of vulnerable populations. This community, TDR Global, aims to catalyse research collaborations and foster the mentorship of young scientists.

TDR Global

Objectives
- Foster mentorship to help members increase their capacity and profile
- Catalyse collaborations among TDR Global members
- Serve as a resource for identifying experts to be considered for review of grants or expert committees for TDR and its partners
- Encourage networking and connections between scientists and experts

Key activities
- Showcase TDR Global members’ activities and profiles
- Support engagement among members of the TDR Global community through the global database of members (Discovery Platform)
- Support the next generation of scientists through mentorship in research and thematic activities

2023 updates:

A crowdsourcing open call was launched to identify innovative strategies to enhance equity and inclusivity in research mentorship programmes in LMICs. Three finalists were chosen and invited to a series of four designathon workshops to refine the strategies and support preparations for their implementation.

As part of TDR’s 50th anniversary celebrations, a photo contest, in collaboration with TDR Global’s regional nodes, was launched to invite TDR Global members to share powerful images relevant to TDR’s history.

Regional nodes have created numerous opportunities for TDR Global members to engage with each other, such as a webinar where members shared experiences and challenges around implementation of ideas to improve research mentorship.
3. Promoting and researching social innovations to improve health care delivery

The Social Innovation in Health Initiative (SIHI) is a network of partner institutions and a community of stakeholders established in 2014 through TDR’s leadership. TDR continues to support SIHI, with additional funding provided by the Swedish International Development Cooperation Agency (Sida).

The Social Innovation in Health Initiative

Objective

SIHI aims to unlock the capacity of all health system actors and stakeholders, including communities, frontline health workers, innovators, policy-makers, the private sector and academics, to advance community-engaged social innovations that transform health care delivery systems and accelerate universal health coverage.

Key activities

- Research to understand what works, what doesn’t, and how to sustain, replicate or scale up social innovations
- Capacity strengthening to ensure that countries in the Global South take the lead in promoting and researching social innovation
- Advocacy to catalyse a global culture change and influence the health agenda at the local, national, regional and global levels

Countries

See map of SIHI network below
2023 updates:

Research

• Social innovation research projects in Colombia, the Philippines and Uganda have integrated an equitable and gender-transformative lens. *(See section 5 for more information.)*

• Seven research case studies on social innovations were conducted in Ghana, the Philippines and Uganda.

Capacity strengthening

• The SIHI Uganda hub has amplified its social innovation fellowship and research programme thanks to the direct support of the Embassy of Sweden.

• An exchange programme for social innovators in Latin and Central America has been piloted through collaboration with and support of the Pan American Health Organization.

• The second cohort of the SIHI Global Fellow Programme was announced in early 2023.

• Two new modules on social innovation and on community engagement for the TDR MOOC on IR have been tested and will be launched in 2024.

Partnerships and institutionalization of social innovation research

• National leadership initiatives in the Philippines have institutionalized social innovation research, notably through the second Gelia Castillo Award for social innovation research funded by the Philippine Council for Health Research and Development. The University of the Philippines Manila is also establishing a Social Innovation Centre.

• A new Goodwill Medical Centre in Nigeria at the Pan African Community Initiative on Education and Health is dedicated to incubating social innovation in healthcare and facilitating related research, thanks to the support of the TY Danjuma Foundation in Nigeria.
A social innovation for reducing maternal and child mortality in the Amazon region

As a medical student working on childhood anaemia in Peru’s Amazon region, Dr Magaly Blas fell in love with its rainforest and its people. She saw first-hand how difficult it was for these communities of almost one million people to access health care: health facilities are often far away and difficult to get to, they can be short-staffed and poorly equipped, and they often lack basic infrastructure.

Dr Blas, who is an epidemiologist and researcher at Cayetano Heredia University in Lima, observed how Peru’s Amazon rainforest is a region with high maternal and infant morbidities and death. She saw how most mothers had no choice but to give birth at home, with their babies sometimes dying from preventable infections. Unfortunately, essential newborn care was not readily available in these rural areas and Dr Blas and her colleagues found hygienic conditions to be lacking. It was uncommon to see immediate skin-to-skin contact with newborns together with low levels of early breastfeeding. Both of these practices can be essential to a newborn’s survival.

In response to these problems, Dr Blas established the Mamás del Río (Mothers of the River) project to improve maternal and neonatal health in this rural area. Her method? To train community health workers (CHW) to identify and confirm pregnancies through community engagement and enrol pregnant women in a home visitation scheme. Using computer tablets to disseminate information and monitor the women, CHWs would conduct six home visits – three in the period before birth and three after birth.

I think that before Mamás del Río, my approach was to get the research done. With Mamás del Río I learned that the focus should be the people and that I can use the research to make a difference.

Dr Magaly Blas
Cayetano Heredia University in Lima

The Mamás del Río project was one of several social innovations selected following an open call from the Latin America and Caribbean hub of the Social Innovation in Health Initiative, which was established 10 years ago through TDR’s leadership. The success of the Mamás del Río project has been evident. Based on early survey work and census data from 2019, Dr Blas and her colleagues knew that most women (two out of three) gave birth at home, usually without a skilled attendant. Following their 18-month pilot study, the percentage of women receiving prenatal care in the first trimester increased from 38% to 63%, and institutional delivery assistance doubled from 16% to 37%, thus reducing complications and providing timely response to potential maternal and perinatal emergencies.
In 2019, Dr Blas received the Social Innovation in Health Initiative award from the Pan American Health Organization for *Mamás del Río*.

"I think that before *Mamás del Río*, my approach was to get the research done. With *Mamás del Río* I learned that the focus should be the people and that I can use the research to make a difference."

An additional positive outcome of the project is the fact that the government of neighbouring Colombia has adopted it for their health care system. They have named it *Mothers of the Border*.

"We have grown from a national initiative to an international initiative with the support now of several organizations, including the Ministries of Health of Peru and Colombia, the Ministry of External Affairs and also the Inter-American Development Bank," she says. "The key thing is not only to find an innovation that has shown to be effective, but how you can turn it into a public policy that will really stay in the country, which is a challenge for any social innovation."

Click [here](#) for more on *Mamás del Río*.

4. Shaping the research agenda

TDR engages with a wide range of stakeholders, including funders and governments, to shape the global research agenda on infectious diseases of poverty. TDR is a champion of open science as a critical aspect of maximizing the impact of research and has a policy of open access to all publications resulting from the research it supports. It also encourages the sharing of data that the research is built on.

**Objective**

To shape research agendas and strengthen efforts to bring research evidence into policy

**Key activities**

- Engaging with a wide range of stakeholders, including WHO disease control programmes and regional offices, to identify research priorities
- Facilitating equitable open science through platforms to share and analyse research data and research tools, and open access to research literature
- Building capacity in the translation of research evidence to inform policy
2023 updates:

TDR provided technical assistance to WHO-led priority setting exercises, including those pertaining to One Health, antimicrobial resistance in human health, health and migration and a research roadmap for NTDs.

TDR is a major contributor to the Coalition for Equitable ResearCh in Low-resource sEttings (CERCLE), previously known as the COVID-19 Clinical Research Coalition. TDR funded and provided technical advice to undertake a scoping review and cross-sectional survey of COVID-19 data sharing platforms and registries, which was published in Lancet Digital Health.

TDR has contributed a chapter to a book coordinated by the U.S. National Institute of Allergy and Infectious Diseases: Research, sample and data sharing during outbreaks, pandemics and beyond.

Training workshops on communicating research findings to decision-makers were held for 47 participants from Ethiopia, Ghana, Nepal and Sierra Leone.
5. Promoting effective engagement in gender and equity

In 2020, TDR launched a new strategy on intersectional gender research as a pathway to a more inclusive, effective response to infectious diseases. TDR recognizes the need to base gender equality and health equity efforts on solid evidence and in strengthened research capacities, drawing on materials that emphasize the need for a comprehensive approach to effectively address gender and equality dimensions in research on infectious diseases of poverty.

**Objective**

To guide and support TDR’s intersectional gender research agenda by strengthening gender-responsive efforts in research on infectious diseases across different TDR activities and programmes

**Key activities**

- Supporting an intersectional gender approach across research and training-related activities and programmes
- Facilitating gender and intersectionality analyses in research for implementation training
- Advocating for a research agenda aligned with TDR’s intersectional gender research strategy and systematically mainstreaming gender and equity dimensions

**2023 updates:**

TDR is applying an intersectional gender lens to SIHI’s efforts and selected three SIHI hubs (in Colombia, the Philippines and Uganda) to conduct research on social innovations in health to understand gendered aspects that interplay within social innovations in health at community level. An online platform is being developed for dissemination and promotion of the research results.

Through a collaboration with HRP, a [virtual repository of resources](#) has been launched to support efforts to incorporate sex and gender in health research.

HERD International researcher in Nepal with community member

*Credit: HERD International*
6. Harmonizing investments in research capacity and research management

ESSENCE on Health Research is an initiative to improve the coordination and harmonization of investments in research capacity. ESSENCE members embrace the principles of donor harmonization and country alignment, and according to these principles, they align their activities and procedures with the priorities of the countries they are supporting.

ESSENCE members include some of the top funders of health research around the world. These include health research funding agencies, international health institutions, government research agencies, development agencies, philanthropists and multilateral initiatives.

**ESSENCE on Health Research**

- **Objective**
  - To increase the impact and efficiency of funders’ support for strengthening health research capacity in LMICs

- **Key activities**
  - Convening meetings and workshops involving ESSENCE members and partners and facilitating interagency communications
  - Supporting efforts to strengthen capacity in research management

- **Countries**
  - The focus is on LMICs, especially those in sub-Saharan Africa

**2023 updates:**

A new guide for *effective capacity strengthening for funders* was published in collaboration with the Liverpool School of Tropical Medicine.

ESSENCE has engaged several new member agencies, including the United Republic of Tanzania Commission for Science and Technology, the India Alliance on Research and the network of mental health global funders.

A policy dialogue at the annual Southern African Research and Innovation Management Association conference engaged African health research funding agencies and identified strategic directions for potential collaboration.
Produced by TDR, the Global Health Matters podcast features renowned experts as well as emerging voices with a focus on perspectives from low- and middle-income countries. The objectives of the podcast are as follows:

- discuss and share experiences and views on different aspects of global health research;
- communicate inspiring stories on research and careers in global health;
- engage TDR’s partners and stakeholders;
- raise TDR’s profile by engaging the global health community; and
- share practical lessons learned to promote South-South learning on issues related to global health and research.

A total of 30 episodes have been produced over the last three years. The podcast has reached listeners in 204 countries and more than 5600 cities, with a growing audience in low- and middle-income countries.

Below is a list of episodes produced for Season 3:

- Decolonization, localization and WHO – History matters part 1
- Clearing the air for a healthy future
- Lessons from trailblazers across generations – History matters part 2
- Don’t wash away hygiene for health
- Dialogues: a conversation with Vidya Krishnan
- Dialogues: a conversation with Daisy Hernández
- Risiking lives to save lives: Health workers in conflict zones
- Snakebite gurus reveal untold truths

Credit: All photos courtesy of podcast guests

Click here for all episodes

The podcast is available on Apple Podcasts, Spotify, Google Podcasts or wherever people may listen to podcasts.
6. Governance and financial performance

Contents

1 Governance and management

2 Financial performance summary

3 Contributions table

Community members engaged in research on leishmaniasis in Uganda
Credit: TDR/K. Mudambo
1. Governance and management

TDR is co-sponsored by UNICEF, UNDP, the World Bank and WHO, and it is through these international, multilateral organizations that TDR has such an extensive reach and support. WHO acts as the executing agency of the Programme and provides close ties with its departments for a continuous loop of research informing policy and policy informing research, which in turn supports planning and priority setting at international, regional and national levels.

TDR’s overall management responsibility is ensured by the TDR Special Programme Coordinator, Dr Jeremy Farrar, who heads WHO’s Science Division as Chief Scientist. Day-to-day management is provided by the TDR Director. Thirty full-time staff and additional project-specific short-term staff come from all regions of the world.

Joint Coordinating Board

TDR’s top governing body is its Joint Coordinating Board (JCB), which includes a mix of representatives from developed and developing countries (see figure below).

The Board comprises 28 members: 12 members selected by the resource contributors to the Programme (including four constituencies of two or more governments sharing one seat); six government representatives chosen by the six regional committees of WHO; six members representing other cooperating parties by the JCB itself; and the four cosponsoring agencies.

JCB membership (as of 1 January 2023)

WHO regions (regional offices)
AFR: Africa
AMR: Americas
EMR: Eastern Mediterranean
EUR: Europe
SEAR: South-East Asia
WPR: Western Pacific

Co-Sponsors (2.2.4)
United Nations Children’s Fund (UNICEF)
United Nations Development Programme (UNDP)
World Bank
Children’s Fund
World Health Organization (WHO)

Financial contributors (2.2.1)
AFR: Cameroon, Sierra Leone, Senegal
AMR: Brazil, Mexico, Panama
EMR: Tunisia, Egypt
EUR: Sweden, Italy, Spain
SEAR: China, South Korea, India
WPR: Japan, Australia

Representatives of WHO regions (2.2.2)
AFR: Kenya, Nigeria, Mali
AMR: Brazil, Mexico, Panama
EMR: Tunisia, Egypt, Yemen
EUR: Italy, Spain, Germany
SEAR: China, South Korea, India
WPR: Japan, Australia

Permanent Members

Constituencies
India and Thailand (2025)
Germany and Luxembourg (2025)
Switzerland (2025)
Sweden (2025)
Nigeria (2026)
Malaysia (2025)
Mexico (2025)
Japan (2025)
China (2026)
Belgium (2026)
Guatemala (2026)
Morocco (2026)
Kenya (2026)
Bangladesh (2026)
Republic of Korea (2026)
United Kingdom and USA (2025)
Burkina Faso (2025)
Zambia (2025)
Peru (2023)

Other cooperating parties (2.2.3)
Panama and Spain (2025)
United Kingdom and USA (2025)
Drugs for Neglected Diseases Initiative (2025)
FIODBUZ (2023)

Who regions
AFR: Africa
AMR: Americas
EMR: Eastern Mediterranean
EUR: Europe
SEAR: South-East Asia
WPR: Western Pacific

Governance and financial performance 57
Standing Committee

A Standing Committee composed of representatives from the four co-sponsoring agencies, the Chair and the Vice-chair of the JCB, the Chair of the Scientific and Technical Advisory Committee (STAC), one representative from the JCB resource contributors group (a JCB member under paragraph 2.2.1 of the TDR Memorandum of Understanding–MOU), and one representative from a disease endemic country (which may be a JCB member under any paragraph of the MOU), provides guidance and oversight on an ongoing basis.

Scientific and Technical Advisory Committee

STAC is TDR’s overarching advisory body, as foreseen in the MOU, which oversees the Programme’s scientific and technical strategies, directions and priorities. STAC provides its recommendations to the JCB and the TDR Secretariat. The Committee includes internationally recognized scientists, with members serving in their personal capacities to represent a range of research disciplines.

<table>
<thead>
<tr>
<th>Name</th>
<th>Term of Office</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Professor Charles Mgone</strong>, Retired Executive Director of the European &amp; Developing Countries Clinical Trials Partnership (EDCTP), Netherlands (Kingdom of the) and Former Vice-Chancellor, Hubert Kairuki Memorial University, Dar es Salaam, Dar es Salaam, United Republic of Tanzania</td>
<td>2023</td>
</tr>
<tr>
<td><strong>(Chair) Professor Margaret Gyapong</strong>, Director, Institute of Health Research, University of Health and Allied Sciences, Ho, Ghana</td>
<td>2024</td>
</tr>
<tr>
<td><strong>Professor Karen Barnes</strong>, Professor, Division of Clinical Pharmacology, Department of Medicine, University of Cape Town, Cape Town, South Africa</td>
<td>2024</td>
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<tr>
<td><strong>Professor Afif Ben Salah</strong>, Full Professor of Community Medicine, College of Medicine and Medical Sciences, Department of Community and Family Medicine, Arabian Gulf University, Manama, Bahrain</td>
<td>2025</td>
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<tr>
<td><strong>Professor Claudia Chamas</strong>, Researcher, Centre for Technological Development in Health, Oswaldo Cruz Foundation (Fiocruz), Rio de Janeiro, Brazil</td>
<td>2025</td>
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<tr>
<td><strong>Dr Theeraphap Chareonviriyaphap</strong>, Head, Department of Entomology, Kasetsart University, Bangkok, Thailand</td>
<td>2025</td>
</tr>
<tr>
<td><strong>Dr Sara Irène Eyangoh</strong>, Directeur Scientifique, Centre Pasteur du Cameroun, Laboratoire National de Référence et de Santé Publique, Ministère de la Santé Publique, Yaoundé, Cameroon</td>
<td>2024</td>
</tr>
<tr>
<td><strong>Professor Debra Jackson</strong>, Takeda Chair in Global Child Health and Deputy Director of the MARCH Centre, London School of Hygiene and Tropical Medicine, London, United Kingdom</td>
<td>2024</td>
</tr>
<tr>
<td><strong>Professor Mirkuzie Woldie Kerie</strong>, Senior Research Adviser, MCH Directorate, Federal Ministry of Health, Jimma, Ethiopia</td>
<td>2024</td>
</tr>
<tr>
<td><strong>Dr Caroline Lynch</strong>, Regional Adviser, Medicines for Malaria Venture, Chiang Mai, Thailand</td>
<td>2024</td>
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</table>
### Scientific working groups

In addition, the TDR Secretariat convenes scientific working groups to review and provide advice on the prioritization of proposed activities and the selection of projects for funding, to review and evaluate progress in that regard and make recommendations to the Secretariat. Reviews cover the three core areas of TDR: research for implementation, strengthening research capacity and global engagement.

### 2. Financial performance summary

Implementation of the TDR Strategy 2018–2023 was finalized in 2023 and achievements have been reported on in our annual financial and results reports.

TDR uses a dual-scenario budget model to manage the uncertainty of funding and to allow a confident start to implementation at the beginning of each biennium. Two programme budget and workplan scenarios were approved by the Joint Coordinating Board for the biennium 2022–2023: a lower scenario at US$ 40 million and a higher scenario at US$ 50 million. Implementation of the US$ 40 million budget scenario began in January 2022. The two-scenario model enabled implementation of a higher level of core operations.

Funds totalling US$ 35.5 million were utilized during the biennium, with substantial savings in staff and administration costs (US$ 4.9 million). Some savings in undesignated funds were reallocated to operations activities during the biennium. As a result, despite the overall reduction in spending, the implementation rate of undesignated-funded activities reached 110% of the US$ 40 million budget scenario, reflecting increased value for money of TDR’s work.
In June 2023, the Joint Coordinating Board approved two budget and workplan scenarios for the biennium 2024–2025, a lower scenario at US$ 40 million and a higher scenario at US$ 50 million. TDR continues to strengthen its fundraising efforts among both new and existing donors, focusing on the priorities of the new strategy 2024–2029 and aligning with the Sustainable Development Goals.
### 3. Contributions table

TDR financial contributions 2023 in US dollars (US$)

<table>
<thead>
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<th>Contributor</th>
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<td>Belgium</td>
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<td>India</td>
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<td>Luxembourg</td>
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<td>Malaysia</td>
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<td>Panama</td>
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<td>Spain (2)</td>
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<td>United Kingdom of Great Britain and Northern Ireland</td>
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<td>World Health Organization</td>
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<table>
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<td>Luxembourg</td>
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<td>Medicines Development for Global Health Limited (MDGH)</td>
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<tr>
<td>Robert Koch Institute (RKI)</td>
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<td>Sweden (Sida)</td>
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<tr>
<td>United Kingdom Foreign, Commonwealth and Development Office</td>
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<tr>
<td>United Nations Development Programme (UNDP)</td>
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<tr>
<td>World Health Organization</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>2,890,476</strong></td>
</tr>
</tbody>
</table>

**Total contributions**  
13,496,720

1. The contribution from the Government of the Federal Republic of Nigeria for the period 2021 to 2023 was reported in full in the 2022 certified financial statement.
2. The contribution from the Government of Spain is for the year 2023 only. Contributions received in both 2022 and 2023 will be reported in the 2023 certified financial statement due to the timing of its receipt.
Core contributors providing overall Programme support in 2023*

Contributors who provided support to specific projects in 2023*

* Listed in order of level of contribution.