

TDR ACTIVITIES – GLOBAL AND COUNTRY OUTCOMES AND IMPACT

TDR, the UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases, as a global programme of scientific collaboration in infectious diseases of poverty, is benefiting from a unique position within the field of infectious disease research. For nearly 50 years, we have been working with partners around the globe which has resulted in a long history of achievements in the field of combatting infectious diseases of poverty, with a focus on low- and middle-income countries. Over this period, TDR-supported research has¹:

- ✓ led to five major elimination campaigns: leprosy, onchocerciasis (river blindness), Chagas disease, lymphatic filariasis and visceral leishmaniasis (the latter in the Indian subcontinent), resulting in improved health and millions of lives saved
- ✓ co-developed or significantly contributed to a dozen new drugs for tropical parasitic diseases, including Moxidectin, which was approved by the US FDA in 2018 as the first new treatment of onchocerciasis² for 30 years.
- ✓ provided scientific evidence on the effectiveness of artemisinin-combination therapies – now the first-line treatment for malaria
- ✓ provided scientific evidence on the effectiveness of insecticide-treated bednets that provide protection from disease carrying mosquitoes, so that today this approach is widely used in communities
- ✓ trained thousands of researchers in developing countries and played a pivotal role in the growth of several leading research institutions in Africa, Asia and Latin America.³

TDR's health research is led and owned by people living in disease endemic countries, which allows them to set priorities according to their real needs, relevant to their community. We engage with partners globally and with the disease endemic countries in particular, working to strengthen the research capacity of institutions and ensure that the evidence generated is translated into policy and practice in these countries. This approach is critical to sustainable development.

Furthermore, TDR fosters North-South and South-South collaborations (between academia, public and private sector organizations), which facilitates knowledge transfer and capacity strengthening, as well as improving the sustainability of research initiatives. With large numbers of scientists trained and over 10 000 projects supported, TDR plays a significant role in nurturing a critical mass of researchers in developing countries who are changing the landscape of infectious diseases of poverty. This close integration of research with capacity building against a backbone of global engagement, enabled by our position as a UN Special Programme, is TDR's unique advantage.

¹ See Making a Difference: 30 Years of Research and Capacity Building in Tropical Diseases, http://www.who.int/tdr/publications/documents/anniversary_book.pdf?ua=1

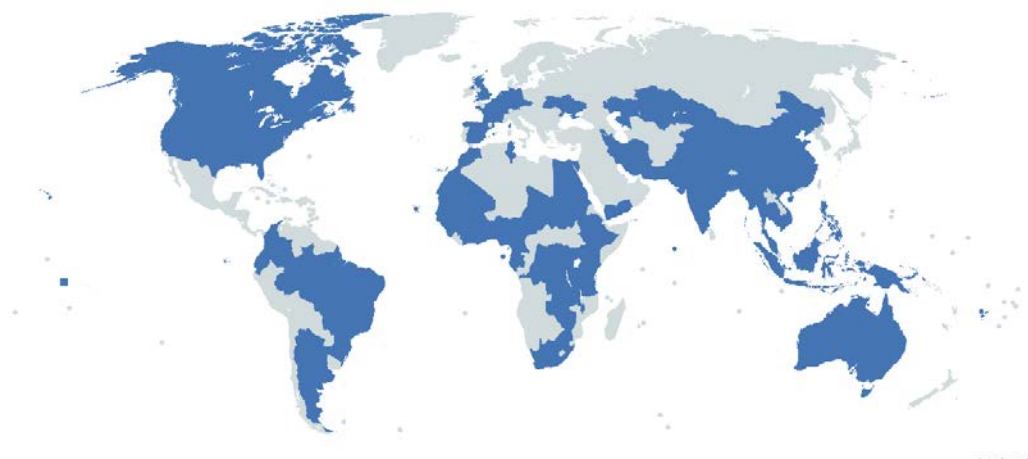
² See <https://www.medicinesdevelopment.com/news-180613.htm>

³ See TDR at a Glance: Fostering an effective global research effort on diseases of poverty, http://whqlibdoc.who.int/hq/2010/TDR_GEN_EN_10.1_eng.pdf?ua=1

In our [current strategy](#), we build on our long experience and our focus more than ever is on identifying and overcoming barriers in implementing effective health interventions – it is not sufficient to simply develop a new health intervention, we have learned that there is much follow-up work needed to ensure it can be effectively used. Our holistic, trans-disciplinary approach, encompassing both health services and community action, is an excellent fit with the Sustainable Development Goals and their aim for universal health coverage.

Our approach responds to local and regional needs and priorities, while at the same time pursuing long-term flagship initiatives that will change the health landscape. Such initiatives are: building resilience to vector-borne disease outbreaks in the face of climate change; developing the field of implementation research in disease-affected countries to identify and overcome system bottlenecks; working with policy-makers and communities to increase the use of evidence for policy and practice in disease control and elimination programmes; and supporting global research by developing training schemes and building capacity for implementation research, hosting global initiatives for open access data sharing and expanding research networks.

TDR's work contributes to reducing the global burden of infectious diseases of poverty and improved health in vulnerable populations, including women and children. The main outcome of TDR's activities is the translation of infectious disease knowledge, solutions and implementation strategies into policy and practice in disease endemic countries. This outcome is accomplished through outputs such as new and improved solutions and implementation strategies that respond to the health needs of disease endemic countries, and through strengthened local institutions and scientists. The map below shows the countries of grantees and trainees funded by TDR in 2020 (in blue).



Our core values of equity, quality of science, sustainability and partnership, illustrate how we do our work. Over the past decade, all of these indicators showed good progress. The ratio of contracts and grants awarded to women maintained its positive trend (increasing from 22% in 2012 to 49% in 2020), and gender equity also sees the same positive trend for women first authors of TDR-supported publications. Disease endemic countries, which are low- or middle-income with a burden of infectious diseases of poverty, remained the focus of TDR's portfolio of projects and received more than 70% of the funds allocated, while over 80% of first authors of TDR-supported publications come from low- and middle-income countries.

Some examples of our activities and outcomes are highlighted below.

TDR-trained researchers apply their skills to the COVID-19 response effort

These achievements validate our strategy of strengthening country capacity with each project we conduct. Several hundred of these researchers and programme officers have been involved in the COVID-19 response, in many countries around the world. Research training provided by TDR through its various training schemes has had benefits beyond research, with skills gained now being applied by 60% of respondents to various aspects of the COVID-19 pandemic response. In addition, a customized training course on Good Clinical Practice for research teams in hospitals participating in the WHO "Solidarity" clinical trial was developed and used by teams in countries through the WHO Academy's COVID-19 mobile learning app. See <https://tdr.who.int/home/our-work/covid-19-and-tdr> for more information.

Strengthening pharmacovigilance capacities for the roll-out of COVID-19 vaccines

As part of the Access and Delivery Partnership, TDR and the WHO Collaborating Centre for Strengthening Pharmacovigilance Practices in Morocco have developed an e-learning initiative to strengthen COVID-19 vaccine safety monitoring systems in African countries. A train-the-trainer module has been developed, targeting national health staff who are expected to deliver in-country trainings on pharmacovigilance.

The first training course was held from 17–21 May 2021, with registered participants from six African countries: Benin, Burkina Faso, Djibouti, Niger, Senegal and Togo. Senegal's Directorate of Pharmacy and Medicine has already begun implementing the training kit for its national training programme. Two training sessions for 60 pharmacovigilance focal points at district and regional levels from 14 regions took place in June 2021.

A second training course is planned for later in 2021, targeting English-speaking countries in Africa. For more details, please see: <https://tdr.who.int/newsroom/news/item/21-06-2021-strengthening-covid-19-vaccine-safety-monitoring-in-african-countries>

Partner countries involved in this activity: Benin, Burkina Faso, Morocco, Niger, Senegal, the United Republic of Tanzania and Uganda.

Supporting TB research networks in West and Central Africa

In 2015, 16 national TB programmes in West Africa established a TDR-supported West African Regional Network for TB control (WARN-TB) to boost TB research in the subregion. Since then, TDR has been training and supporting national TB programme teams to enhance their research, in close collaboration with various partners. The Central African Regional Network for TB control (CARN-TB), with 11 countries, replicates and builds on the experience of WARN-TB. The secretariat for both networks is hosted by the National TB Programme of Benin.

The COVID-19 pandemic has strengthened ties between the national TB programmes (NTPs) participating in WARN-TB and CARN-TB. For example, one research project is supporting NTPs throughout West and Central Africa to conduct implementation research on strategies to mitigate the impact of COVID-19 on TB control efforts. See <https://tdr.who.int/newsroom/news/item/24-03-2021-research-to-ensure-continuity-of-tb-care-amid-covid-19> for more information.

Partner countries involved in this activity: Benin, Burkina Faso, Burundi, the Democratic Republic of the Congo, Guinea, Mali, Niger, Rwanda and Senegal.

Facilitating implementation of a shorter all-oral treatment for drug-resistant TB

TDR, in collaboration with the WHO Global Tuberculosis Programme and technical partners, has developed an operational research package (dubbed ShORRT for Short all-Oral Regimens for Rifampicin-resistant Tuberculosis) to support the implementation of such drug regimens. Since its launch in Hyderabad, India, in 2019, the ShORRT initiative is now involving and supporting 25 countries worldwide, working alongside WHO regional and country offices, academia, technical partners such as the KNCV Tuberculosis Foundation, the Union and Damien Foundation, and funding agencies such as the United States Agency for International Development (USAID) and the Global Fund to Fight AIDS, Tuberculosis and Malaria. See <https://tdr.who.int/activities/shorrt-research-package> for more information

Partner countries involved in this activity: Benin, Burkina Faso, the Democratic Republic of the Congo, Guinea, Mozambique and Rwanda.

Optimizing delivery and effectiveness of seasonal malaria chemoprevention

As a result of slowing global progress against malaria, WHO has highlighted the urgency of strengthening the delivery of proven interventions such as seasonal malaria chemoprevention (SMC). The OPT-SMC project is supporting 13 countries in West and Central Africa to conduct implementation research on SMC, working in partnership with the Université de Thiès in Senegal, the Medicines for Malaria Venture and the London School of Hygiene and Tropical Medicine. For more information, see: https://tdr.who.int/docs/librariesprovider10/default-document-library/opt-smc-fact-sheet-en.pdf?sfvrsn=660e09c2_4

Partner countries involved in this activity: Benin, Burkina Faso, Guinea, Mali, Niger and Senegal.

Strengthening country capacity for improved arboviral disease control in sub-Saharan Africa

With urbanization, the threat of arboviral diseases spread by mosquitoes in Africa has raised the question of the adequacy of health systems to detect, prevent and respond to outbreaks in a timely and efficient manner. In 2018, 16 West African countries conducted a situation analysis of existing resources in the region to identify needs and to target capacity strengthening interventions, with the support of TDR, the WHO Department of Control of Neglected Tropical Disease (NTD) and the West African Health Organization (WAHO).

NTD, the WHO Regional Office for Africa and TDR launched a similar evaluation for central, eastern and southern Africa earlier this year. This survey will help to identify strengths and common gaps and could serve as a baseline survey for guiding planning activities for arboviral disease surveillance and control at country and regional levels. For more information, see:

<https://tdr.who.int/newsroom/news/item/23-03-2021-strengthening-country-capacity-for-improved-arboviral-disease-control-in-sub-saharan-africa-capacity-gaps-and-suggested-actions>

Partner countries involved in this activity: Benin, Burkina Faso, Burundi, the Democratic Republic of the Congo, Guinea, Mali, Mozambique, Niger, Rwanda, Senegal, the United Republic of Tanzania and Uganda.

Evidence for improved vector control and urban health

In the field of vector control and urban health, in 2020 research commissioned by TDR led to six evidence briefs for policy. These briefs, which target a global audience, were prepared through broad international consultation and in collaboration with policy-makers (ministries of health) from three low- and middle-income countries: Brazil, Burkina Faso and Colombia.⁴ The six briefs address the following topics:

- an easy way to implement rapid diagnostic tests for vector-borne and other infectious diseases
- integrated surveillance systems to cut off vector-borne diseases in cities
- integrated vector management implementation in disease endemic areas to reduce mosquito populations
- global threat of vector-borne disease transmission and co-infection in urban areas
- containment measures for emerging and re-emerging vector-borne and other infectious diseases
- challenges in housing/hygiene interventions in the prevention/control of vector-borne diseases.

Partner countries involved in this activity: Burkina Faso

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

TDR's [Postgraduate Training Scheme](#) provides a full academic scholarship through eight participating universities located in low- and middle-income countries. Students obtain master's degrees focused on implementation research on malaria, TB, neglected tropical diseases and COVID-19. Since the inception of the scheme in 2015, the eight universities have awarded around 300 master's scholarships and eight PhD fellowships.

This year, Université Cheikh Anta Diop in Dakar, Senegal, joined the Postgraduate Training Scheme, filling the training gap in French-speaking countries. A call for applications from prospective students revealed great demand from French-speaking candidates in the region. To fill 29 places, a total of 1682 applications were submitted, among which 1506 were eligible. The 29 students selected hail from 15 countries in sub-Saharan Africa.

Partner countries involved in this activity: Benin, Burkina Faso, Burundi, the Democratic Republic of the Congo, Guinea, Mali, Niger, Rwanda and Senegal.

Fostering learning and collaboration between Regional Training Centres

TDR supports a network of Regional Training Centres (RTCs) located in each WHO region, which have been selected on a competitive basis to conduct and disseminate training courses on good health research practices and implementation research. Regionalization of these courses using train-the-trainer methodology and training workshops enables us to work more closely with the end users and become more relevant to regional needs, empower centres based in the regions to serve as training hubs and utilize existing expertise in disease endemic countries.

Université Cheikh Anta Diop is also serving as a new sub-Regional Training Centre for French-speaking countries in sub-Saharan Africa. Earlier this year, the university organized a [massive open online course \(MOOC\) on implementation research](#) for researchers in West Africa, with 973 participants, from countries including: Benin, Burkina Faso, Burundi, the Democratic Republic of the Congo, Mali, Niger and Senegal.

⁴ See <https://www.equiperenard.org/verdas-en>

Supporting operational research for public health

The Structured Operational Research and Training (SORT IT) initiative aims to build capacity of countries and institutions to generate and utilize data for evidence informed decision-making. SORT IT helps to strengthen health systems, enhance programme performance and improve public health. *For more information on SORT IT, please visit the following website: <https://tdr.who.int/activities/sort-it-operational-research-and-training>.* The activities listed below involve Belgium partner countries:

- **Uganda:** Project on tackling antimicrobial resistance (AMR) and strengthening health systems to cope with pandemics. Technical support to the national AMR and COVID-19 coordinating committees through the WHO country office.
- **Burkina Faso, Guinea, Mali, Niger and Senegal:** A new project on tackling neglected tropical diseases and snakebite in French-speaking West Africa that involves a regional approach.

Collaboration on these projects include the following institutions:

- African Institute of Public Health (AIPH), Ouagadougou, Burkina Faso
- Africa Center of Excellence for prevention and control of communicable diseases, University Gamal Abdel Nasser, Conakry, Guinea
- Institute of Tropical Medicine, Antwerp, Belgium
- Fondation Damien, Belgium

Promoting social innovation for health through country hubs

The Social Innovation in Health Initiative⁵ (SIHI) is a network of individuals and institutions whose goal is to advance social innovation in health through research, capacity building and advocacy, to accelerate progress toward universal health coverage and meet the Sustainable Development Goals. Since its inception, SIHI has identified more than 40 community-based social innovations across 17 countries that are transforming health care delivery to improve access, so no one is left behind. SIHI operational country hubs in China, Colombia, Malawi, the Philippines, South Africa and Uganda, have effectively institutionalized social innovation research as a multi-disciplinary approach in their respective organizations. New partnerships in 2020 and 2021 established SIHI hubs in Ghana, Honduras, India, Indonesia, Nigeria and Rwanda. The SIHI Secretariat is currently working to expand the network to include further francophone countries in Central and Western Africa.

Partner countries involved in this activity: Rwanda and Uganda.

Useful links and information

[Programme Budget and Workplan 2022–2023](#)

[TDR Governance](#)

[TDR Annual Report 2020](#) (in pdf or digital version)

⁵ <https://tdr.who.int/activities/social-innovation-in-health-initiative>