Expected Result: 1.1.1

Title: Country preparedness for disease outbreaks

Strategic Work Area: Research for implementation
Workstream: Research for implementation

ER type: Evolved
Funding type: UD and DF

Start date: 01/01/2013
End date: 31/12/2027

ER status: On Track
Comment:

WHO region: Global

Partners: Endemic country programmes and researchers, West Africa Health Organization, WHO regional offices, WHO departments (WHO–ECCH, and the WHO Yellow Fever Department, Eliminate Yellow Fever Epidemic (EYE) Secretariat).

Diseases: Arboviral diseases;Arboviruses;Chikungunya;Dengue;Vector-borne diseases;Other;Epidemics and outbreaks

Review mechanism: Scientific working group + other ad hoc or collaboration-based review systems as appropriate

ER manager: Corinne Simone Collette MERLE
Team: Michelle Villasol, Corinne Merle, Gildas Yahouedo, Nolwenn Conan
Number of people working on projects: 120

FENSA clearance obtained for all Non-State Actors? Yes
Justification for no FENSA clearance: Obtained when applicable but so far all partners are governmental institutions

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Objectives aligned
Roles complimentary:	Yes	The partners have complementary role and responsabilities.
Coordination transparent:	Yes	Transparent coordination
Visibility:	Yes	Visibility of TDR higlighted

Objectives and results chain

Approach to ensure uptake: National control programmes and WHO (HQ, ROs) fully involved in research planning, implementation and analysis.

Up-take/Use Indicator:	TDR outputs considered among evidence informing guidelines and policy decisions or control programme advisory committee recommendations. EWARS uptake at various stages of piloting in over 13 countries.
Gender and geographic equity:	Gender specific issues as they relate to outbreak surveillance and response will be taken into account during research design. All affected regions are considered.
Publication plan:	Publications, policy briefs, TDR news and presentation at meetings and conference. Publications for 2024: - Schlesinger M, Prieto Alvarado FE, Borbón Ramos ME, Sewe MO, Merle CS, Kroeger A, Hussain-Alkhateeb L. Enabling countries to manage outbreaks: statistical, operational, and contextual analysis of the early warning and response system (EWARS-csd) for dengue outbreaks. Front Public Health. 2024 Jan 19;12:1323618. doi: 10.3389/fpubh.2024.1323618. PMID: 38314090; PMCID: PMC10834665 Publications for 2025: list pending
Up-take/use indicator target date:	31/12/2027

Sustainable Development Goals

Good Health and Well-being;Reduced Inequality;Partnerships to achieve the Goal

Concept and approach

Rationale:

This ER addresses an important public health problem (prediction, early detection and response to devastating outbreaks). Considering the growing importance of Aedes-borne diseases, the initial focus was on dengue, chikungunya, Zika and yellow fever but we move slowly towards addressing other climate sensitive diseases such as meningitis, cholera outbreaks and promoting a One Health approach.

Design and methodology:

For this ER, TDR is providing the following support:

1. Support to country control programmes worldwide to identify signals that can alert country control programmes to an impending arbovirus outbreak. This has led to a model contingency plan and **an Early Warning and Response System (EWARS) for arbovirus outbreaks**
2. Support to the Ethiopian National Disease Control Programme to pilot EWARS **for predicting meningitis outbreak**
3. Strengthening surveillance and control of Arboviral diseases in Africa including **yellow fever outbreak prevention & response in high-risk African countries**

Approach to ensure quality:

Scientific working group and, as applicable, other expert review of proposals, progress reports, close monthly monitoring of country progress in the conduct of their research protocol.

ER Objectives

ERObj-0000 : To enable countries to improve their response capacity to arboviruses outbreaks and other diseases outbreaks

ERObj-0068 : Strengthening surveillance and control of Arboviral diseases in Africa including yellow fever outbreak prevention & response in high-risk African countries

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Biennium Budget

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 155 000	USD 300 000
Designated funds	USD 180 000	USD 450 000
Total	USD 335 000	USD 750 000

Planned Budget

Undesignated funds	USD 150 000
Designated funds	USD 180 000
Total	USD 330 000

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 150 000	USD 200 000
Designated funds	USD 500 000	USD 500 000
Total	USD 650 000	USD 700 000

Planned Budget

Undesignated funds	USD 190 000

Designated funds	USD
Total	USD 190 000

ER Biennium Risks

Biennium: 2026-2027

ERRisk - 0336: Lack of interest outside epidemic peaks resulting in insufficient funding

Actions To Mitigate Risk: Raise awareness of potential donors; explore alternative ways of supporting work

Mitigation Status: Planning phase

Biennium: 2024-2025

ERRisk - 0300: Lack of interest outside epidemic peaks resulting in insufficient funding

Actions To Mitigate Risk: Raise awareness of potential donors; explore alternative ways of supporting work

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2026-2027

EROutp-0419: By 2027, more than 15 countries use EWARS-csd in at-risk districts and at least 3 countries integrated EWARS-csd in their surveillance system

Output Indicator: Integration of EWARS-csd in countries 'surveillance system

Output Target Date: 31/12/2027

Output Progress Status:

Output Progress Description:

Biennium: 2024-2025

EROutp-0400: at least one research package developped and endorsed by WHO NTD or WHO EYE department

Output Indicator: availability of tools for strengthening capacities of countries in Africa for the surveillance and control of arboviral diseases including Yellow fever

Output Target Date: 01/01/2025

Output Progress Status: On Track

Output Progress Description: In response to large yellow fever outbreaks in Angola and in Democratic Republic of the Congo in 2016, and with the threat of international spread (11 cases were exported to China), the World Health Organization (WHO), Gavi, the Vaccine Alliance and the United Nations International Children's Emergency Fund (UNICEF) developed a comprehensive multi-partner global strategy to Eliminate Yellow fever Epidemics (EYE) 2017-2026. In order to reach its three objectives for 2026 (1) protect at-risk population; 2) prevent international spread; and 3) contain outbreaks rapidly), one of the mandates of the EYE strategy is to help at-risk countries to prevent yellow fever outbreaks and to prepare for those which might still occur.

Because of the growing experience of TDR in the development of generic research package (see ER 1.2.6) , the EYE secretariat proposed to TDR to support them in the development of a research package that will guide countries for the conduct of root-cause analysis yellow fever outbreaks in African countries with history of mass vaccination campaign(s), as well as for the investigation of the reasons for delays in vaccination response during an outbreak. with template research protocols (including SOPs and data collection tools). Additionally, a tool was developed to evaluate the causes of low yellow fever vaccination coverage in countries with districts that have a high immunity gap, in preparation for a planned targeted yellow fever campaign.

The research package composed by two research protocols, questionnaires, and guidance documents for conducting the analysis is finalised. It was successfully piloted in Guinea, Cameroon and Central Africa and presented at the EYE annual meeting. This research package is available in French and English and was recently succesfully used by Ivory Cost. This tool is now part of the EYE strategy toolkit.

Biennium: 2024-2025

EROutp-0370: By 2027, more than 15 countries use EWARS-csd in at-risk districts and at least 3 countries integrated EWARS-csd in their surveillance system

Output Indicator: Integration of EWARS-csd in countries 'surveillance system

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: EWARS-csd for dengue outbreaks (Current status of EWARS-csd use):

1. Full integration of EWARS-csd into the national surveillance platform: Mexico (with 137 endemic municipalities). Because of a change in the MOH, the surveillance system was blocked but with the nomination of the new head of the surveillance disease department it recently restarted. A paper on Mexico experience with EWARS-csd was published to explain how they moved from research to national implementation. Thailand also implemented EWARS-csd at scale as well as Dominican Republic (with additional support provided by WHO PAHO).

2. Countries which started to pilot EWARS-csd in hot-spot districts for later inclusion into the national surveillance system: Bangladesh, Cambodia, Ethiopia, India, Lao, Myanmar, Nepal, , Timor Leste, Colombia, Oman, Ethiopia.

3. Countries which are at a early implementation stage (calibration) and pilot in one or two districts: Burkina Faso, Nigeria and Senegal. TDR led the development of a step-by-step document for facilitating the implementation of EWARS-csd by new countries.

4. Countries which had advanced with the wide-spread use of EWARS-csd but were slowed down due to political changes and are now coming back: Sri Lanka (on hold since the political events), Malaysia (still on hold because of political reason), Brazil (implementation is on hold due to political reasons).

The WHO Climate Change and Health unit (WHO/CCH) is collaborating for the implementation of EWARS-csd system in the following countries: Bangladesh, Cambodia, Lao, Myanmar, Nepal, Timor Leste, Ethiopia, Malawi and Mozambique and Oman.

Beside the monthly calls with all teams to catch-up on the country progress and when appropriate provide online training, since 2020, webinars were organised every 6 months with all countries implementing EWARS-csd (in collaboration with WHO/CCH) to maintain a dynamic and share experiences.

Focus on Thailand:

The National Disease Control (NDC) programme in Thailand has shown strong commitment to scaling up the use of EWARS-csd nationwide. A Memorandum of Understanding was signed between the NDC and the national meteorological department to enable automatic weekly data sharing, which feeds directly into the EWARS-csd system to generate outbreak alerts. With funding from TDR and CDC, the NDC collaborated with the start-up NECTEC to implement a digital solution that automatically shares alert levels with health services via an in-house app. This system is now operational (see figure above), and EWARS-csd has been scaled up in all dengue hotspots through intensive community awareness and engagement strategies. In collaboration with Mahidol university, Implementation research is underway to assess the system's effectiveness, feasibility, and user satisfaction.

EWARS for other climate sensitive diseases :

EWARS-csd is being tested in Mozambique, led by WHO/CCH, to predict malaria outbreaks. With TDR's support, Ethiopia is using the platform to forecast meningitis outbreaks—early results are promising and a manuscript has been submitted. In Senegal, TDR is supporting the use of EWARS-csd to better predict the onset of malaria peaks and guide the timing of seasonal malaria chemoprevention.

ER Biennium Outcomes

Biennium: 2026-2027

EROutc-0143: Country preparedness and policy decisions for arbovirus outbreaks informed or facilitated by TDR outputs

Progress made towards outcome :

Biennium: 2024-2025

EROutc-0123: Process and tools were developed to strengthen country capacities for the Surveillance and Control of Arboviral Diseases including Yellow Fever in Africa

Progress made towards outcome : the Root Cause analysis toolkit for understanding the cause of yellow fever outbreak resurgence is part of the EYE strategy tools to be used when a new yellow fever outbreak occur in a country. It is finalised, available in French and English and about to be published. It was piloted in Cameroun, Central Africa and Guinea and was recently used in Ivory Cost.

Biennium: 2024-2025

EROutc-0111: Country preparedness and policy decisions for arbovirus outbreaks informed or facilitated by TDR outputs

Progress made towards outcome : Discussions are ongoing to integrate EEWARS-csd in the Global Arbovirus Initiative surveillance dashboard. EWARS-csd is successfully piloted in three new countries: Senegal, Burkina Faso and Nigeria - Thailand and Republic Dominican are implementing EWARS-csd nationawide in all dengue hotspot areas

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ER Project Links

P25-01746: Technical Expert support for the implementation of EWARS-csd in countries supported by TDR	**PI Name :** Laith Naser Hussain **Project Start Date :** 01/12/2025 **Project End Date :** 31/12/2025
P25-01745: Implementation, Evaluation and Adaptation of EWARS-csd for Dengue and other Climate-Sensitive Diseases in Thailand	**PI Name :** Apinya Niramitsantipong **Project Start Date :** 01/12/2025 **Project End Date :** 31/12/2025
P25-01613: Technical assistance for the implementation of EWARS-csd in countries suported by TDR	**PI Name :** Laith Naser Hussain **Project Start Date :** 04/06/2025 **Project End Date :** 15/12/2025
P25-01573: Pilot project for the USE of EWARS-csd for predicting Dengue outbreaks in Burkina Faso	**PI Name :** Flavien AKE **Project Start Date :** 03/04/2025 **Project End Date :** 31/12/2025
P25-01526: Pilot project for the USE of EWARS-csd for predicting Dengue outbreak in Senegal	**PI Name :** Abdourahmane Sow **Project Start Date :** 17/02/2025 **Project End Date :** 31/12/2025
P24-01470: Support for the implementation of an early warning and response systems for dengue control (EWARS-csd)	**PI Name :** Philipp Henneke **Project Start Date :** 12/12/2024 **Project End Date :** 30/12/2025
P24-01392: Consultant TDR - vector control, multi sectoral approach and country preparedness	**PI Name :** Gildas Yahouedo **Project Start Date :** 01/10/2024 **Project End Date :** 12/09/2025
P23-00945: Addressing the yellow fever immunization gaps by improving its assessment in targeted countries.	**PI Name :** Nolwenn Conan **Project Start Date :** 01/04/2023 **Project End Date :** 30/06/2024
P23-00939: Technical assistance for the implementation of an “Effective, affordable and evidence-based dengue early warning and response systems”(EWARS for dengue control)	**PI Name :** Laith Naser Hussain **Project Start Date :** 20/03/2023 **Project End Date :** 30/04/2023
P23-00882: Support for effective implementation of an early warning and response systems for dengue control (EWARS for dengue control).	**PI Name :** Hajo Grundmann **Project Start Date :** 30/05/2022 **Project End Date :** 01/12/2023
P21-00490: Thailand - Better Documenting EWARS Effectiveness on Dengue Control	**PI Name :** Apinya Niramitsantipong **Project Start Date :** 12/11/2021 **Project End Date :** 31/01/2022
P21-00349: Support to research for Improved VL Surveillance, Case Detection and Vector Control in the scope of VL elimination Initiative in Bangladesh and Nepal	**PI Name :** Winfried Kern **Project Start Date :** 28/06/2021 **Project End Date :** 26/06/2022
P21-00191: Situation analysis on surveillance and control on vector borne diseases in sub-Saharan Africa	**PI Name :** Gildas Yahouedo **Project Start Date :** 01/03/2021 **Project End Date :** 15/05/2021
P20-00137: Data collection for measuring the capacities of the South-East and Central Africa countries for entomological/epidemiological	**PI Name :** Gildas Yahouedo **Project Start Date :** 07/12/2020

surveillance of arboviral diseases and vector control	**Project End Date :** 28/02/2021
P20-00097: Research Programme on "Effective, affordable and evidence-based dengue early warning and response systems".	**PI Name :** Laith Naser Hussain **Project Start Date :** 16/11/2020 **Project End Date :** 01/12/2021
P20-00069: Research Programme on "Effective, affordable and evidence-based dengue early warning and response systems"	**PI Name :** Winfried Kern **Project Start Date :** 06/11/2020 **Project End Date :** 01/12/2021
B80229: To prepare reports of the Expert Meeting on Dengue-Zika-Chikungunya Early Outbreak Warning and Response, WHO-HQ, Geneva, Switzerland, 19-20 September 2019	**PI Name :** Margarita Ronderos **Project Start Date :** 01/09/2019 **Project End Date :** 15/11/2019
B80117: Research Programme on 'Effective, affordable and evidence-based dengue early warning and response systems '.	**PI Name :** Maquines Odhlambo Sewe **Project Start Date :** 01/02/2019 **Project End Date :** 30/11/2019
B80116: Research Programme on 'Effective, affordable and evidence-based dengue early warning and response systems '	**PI Name :** Ursula Wittwer Backofen **Project Start Date :** 14/01/2019 **Project End Date :** 31/12/2019
B80100: Maintenance of the web application version of dengue Early Warning and Response System (EWARS)	**PI Name :** Joacim Rocklov **Project Start Date :** 26/10/2018 **Project End Date :** 31/12/2019
B80020: Research Programme on 'Effective, affordable and evidence-based dengue early warning and response systems '	**PI Name :** Laith Naser Hussain **Project Start Date :** 21/02/2018 **Project End Date :** 30/11/2018
B80015: Research Programme on 'Effective, affordable and evidence-based dengue early warning and response systems '	**PI Name :** David Benitez-Valladares **Project Start Date :** 01/04/2018 **Project End Date :** 03/11/2019

ER Country Links

WHO Region :	AFRO	**Country:**	Mauritius	**World Bank Income Group :**	High income
WHO Region :	AFRO	**Country:**	South Africa	**World Bank Income Group :**	Upper middle income
WHO Region :	AFRO	**Country:**	Burundi	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Congo, Rep.	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Eritrea	**World Bank Income Group :**	Low income

WHO Region :	AFRO	**Country:**	Benin	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Mali	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Mauritania	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Rwanda	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Senegal	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Burkina Faso	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Botswana	**World Bank Income Group :** Upper middle income
WHO Region :	AFRO	**Country:**	Cameroon	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Algeria	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Chad	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Côte d'Ivoire	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Cabo Verde	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Guinea	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Liberia	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Central African Republic	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Ghana	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Lesotho	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Angola	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Namibia	**World Bank Income Group :** Upper middle income

WHO Region :	AFRO	**Country:**	Comoros	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Congo, Dem. Rep.	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Equatorial Guinea	**World Bank Income Group :**	Upper middle income
WHO Region :	AFRO	**Country:**	Ethiopia	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Gambia, The	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Eswatini	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Madagascar	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Seychelles	**World Bank Income Group :**	High income
WHO Region :	AFRO	**Country:**	Uganda	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Zambia	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Gabon	**World Bank Income Group :**	Upper middle income
WHO Region :	AFRO	**Country:**	Guinea-Bissau	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Kenya	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Malawi	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Nigeria	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Sierra Leone	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	South Sudan	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Mozambique	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Togo	**World Bank Income Group :**	Low income

WHO Region :	AFRO	**Country:**	Tanzania	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Niger	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	São Tomé and Principe	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Zimbabwe	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Gambia, The	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Mauritania	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Benin	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Senegal	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Sierra Leone	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Ghana	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Guinea	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Cabo Verde	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Togo	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Liberia	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Niger	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Nigeria	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Mali	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Burkina Faso	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Côte d'Ivoire	**World Bank Income Group :** Lower middle income

WHO Region :	AMRO	**Country:**	Brazil	**World Bank Income Group :** Upper middle income
WHO Region :	AMRO	**Country:**	Venezuela, RB	**World Bank Income Group :** Upper middle income
WHO Region :	AMRO	**Country:**	Peru	**World Bank Income Group :** Upper middle income
WHO Region :	AMRO	**Country:**	Dominican Republic	**World Bank Income Group :** Upper middle income
WHO Region :	AMRO	**Country:**	Colombia	**World Bank Income Group :** Upper middle income
WHO Region :	SEARO	**Country:**	Nepal	**World Bank Income Group :** Lower middle income
WHO Region :	SEARO	**Country:**	Sri Lanka	**World Bank Income Group :** Upper middle income
WHO Region :	SEARO	**Country:**	Thailand	**World Bank Income Group :** Upper middle income
WHO Region :	SEARO	**Country:**	Indonesia	**World Bank Income Group :** Lower middle income
WHO Region :	SEARO	**Country:**	Bangladesh	**World Bank Income Group :** Lower middle income
WHO Region :	SEARO	**Country:**	Maldives	**World Bank Income Group :** Upper middle income
WHO Region :	SEARO	**Country:**	India	**World Bank Income Group :** Lower middle income
WHO Region :	SEARO	**Country:**	Myanmar	**World Bank Income Group :** Lower middle income
WHO Region :	WPRO	**Country:**	Cambodia	**World Bank Income Group :** Lower middle income
WHO Region :	WPRO	**Country:**	Malaysia	**World Bank Income Group :** Upper middle income
WHO Region :	WPRO	**Country:**	Vietnam	**World Bank Income Group :** Lower middle income

Expected Result: 1.1.4

Title: Country resilience to the threat of drug-resistant infections

Strategic Work Area: Research for implementation

Workstream: Research for implementation

ER type: Continuing

Funding type: UD

Start date: 01/01/2018

End date: 27/12/2027

ER status: On Track

Comment: 120 research projects started in 11 countries, 102 published with three editorials, 79% influenced policy/practice; 92% trainees applying SORT IT skills to AMR practice; 36% trainees became mentors showing leadership.

WHO region: Global

Partners: 11 WHO country offices, EMRO regional office, National AMR committees, 87 implementing partners including NGOs, research and academic institutions, relevant MoH departments/programmes, hospitals/clinics in selected countries.

Diseases: Not Disease-Specific;Resistance to treatment and control agents;One Health

Review mechanism: One Health country committees, WCOs, Scientific working group, other collaboration-based review systems as appropriate

ER manager: Rony ZACHARIAH

Team: Ekua Johnson, Garry Aslanyan, Corinne Merle, Michelle Villasol, Maier Mary, Abdul Masoudi, Kamau Edward, Terry Robert, Zachariah Rony

Number of people working on projects: 17

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: Obtained when applicable

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Aligned
Roles complimentary:	Yes	WHO country offices and SORT IT partners leverage their local convening power and allow use of their trained and experienced human resources for implementation

Coordination transparent:	Yes	All research subjects and participants are endorsed by national AMR selection committees, data and publications are open access, Phone calls each month with partners, all reports shared widely. SORT IT selection criteria and SOPs established.
Visibility:	Yes	The TDR website is updated every quarter and all reports and training documents are archived. All published studies are open access and disseminated through various channels. A new module on communication developed for effective dissmination

Objectives and results chain

Approach to ensure uptake: Early engagement with expected end-users ensures local research relevance, while regular updates to stakeholders and related programs, along with their active involvement in project selection, planning, implementation, and policy development, enhance collaboration. New training modules on real-time data management and capacity-building for effective research communication with decision-makers have been developed and integrated into all training sessions.

Up-take/Use Indicator: Routine surveys conducted 12-15 months after research completions, new or updated/improved guidelines, policies, implementation plans and/or practice (as applicable) informed by TDR outputs

Gender and geographic equity: Beneficiaries: Geographic selection and target countries are determined by available funding and currently include nations in Africa, Asia, the Eastern Mediterranean, and Latin America. TDR is committed to promoting equality, diversity, and inclusivity in science. Researchers of all gender identities, sexual orientations, ethnicities, religions, cultures, social backgrounds, and those with disabilities are strongly encouraged to apply.

Collaborators: Collaborators include those engaged in the preparation, implementation, and uptake of the project, with potential funding from third parties where applicable.

Publication plan: Scientific meetings, Open access journals, TDR and partner websites, TDR-gateway, lightening video presentations, published annual reports

Published papers on AMR that became accessible in 2025

1. Amegayibor EF, Larbi RO, Ayim-Akonor M, Mills RO, Owusu H, Sasu BK, Terry RF, Harries AD, Kuukyi FS. Enterobacterales and Antimicrobial Resistance in Feed, Water, and Slurry in Pig Production Farms in the Greater Accra Region of Ghana, 2024. Tropical Medicine and Infectious Disease. 2025;10(9):239.

2. Boateng E, Owusu H, Thekkur P, Kwesi Hedidor G, Corquaye O, Opare-Addo MNA, Nkansah FA, Vandyck-Sey P, Ankrah D, Nii C, Ofei-Palm K. Operational Research Improves Compliance with Treatment Guidelines for Empirical Management of Urinary Tract Infection: A Before-and-After Study from a Primary Health Facility in Ghana. Tropical Medicine and Infectious Disease. 2025;10(9):259.

3. Amegayibor EF, Larbi RO, Ayim-Akonor M, Ansa EDO, Thekkur P, Owusu H, Terry RF, Harries AD, Sasu BK, Hedidor GK, Mills RO. Prevalence of Antimicrobial and Colistin Resistance in Enterobacterales in Healthy Pigs in Ghana Before and After Farmer Education. Tropical Medicine and Infectious Disease. 2025;10(9):266.

4. Sewornu R, Boakye-Yiadom E, Ativi E, Kwadzokpui PK, Senahey B, Owusu H, Thekkur P, Kumar AM V., Dodoo CC. Improved Utilisation and Quality of Blood Culture Services Following Operational Research in a Tertiary Hospital in Ghana. Tropical Medicine and Infectious Disease. 2025;10(9):270.

5. Abruquah NA, Amponsah OKO, Nair D, Opoku DA, Konadu E, Prajitha KC, Osafo AB, Buabeng KO, Ayisi-Boateng NK. Improvements in Prescribing Indicators and Antibiotic Utilization Patterns Following Antimicrobial Stewardship Intervention at a District Hospital in Ghana. Tropical Medicine and Infectious Disease. 2025;10(10):282.

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Up-take/use indicator target date: 31/12/2025

Sustainable Development Goals

Good Health and Well-being;Quality Education;Gender Equality;Clean Water and Sanitation;Industry, Innovation and Infrastructure;Responsible Consumption and Production;Life Below Water;Life on Land;Partnerships to achieve the Goal

Concept and approach

Rationale:

Antimicrobial resistance (AMR) is a major global health threat, undermining standard treatments and enabling infections to persist and spread. Effective responses require support in three key areas:

1. **Building sustainable local capacity** for operational research and use of routine program data.
2. **Strengthening data generation and application** across global AMR action pillars, including surveillance, infection control, optimized antimicrobial use in human and animal health, and investment in diagnostics and burden measurement.
3. **Establishing robust decision-making and knowledge-management structures** to maximize the impact of research and interventions.

Design and methodology:

The design fosters early, multidisciplinary engagement with national and international AMR stakeholders. It uses the output-oriented SORT IT approach to generate and communicate evidence aligned with national priorities. The training model addresses the three TDR pillars—research implementation, capacity building, and global

engagement—and includes a training-of-trainers component to create a multiplier effect and ensure long-term sustainability.

Approach to ensure quality:

The selection of countries, partners, and trainees is guided by specific criteria and project requirements, with close progress and performance monitoring throughout the process. Investigators are chosen based on specific eligibility criteria, including relevant expertise and national endorsement, which is also vetted through proposal reviews by experienced technical committees and external subject matter experts. Training activities are tailored as needed. Mentors and collaborating institutions for implementation of research projects are selected based on specific criteria such as proven experience, hands-on mentorship style and familiarity with the country context.

The SORT IT approach incorporates its own quality and performance standards, which are monitored and reported on at quarterly basis. Publishing is part of the quality control process of generated evidence; Standard Operating Procedures are customized to national needs and capacities. All franchised initiatives include mandatory quality control measures. The quality of publications is monitored through independent evaluations.

ER Objectives

ERObj-0001 : 1. Assist countries in creating practical approaches for implementing effective strategies to prevent, detect, and control drug-resistant infections.

ERObj-0002 : 2. Develop sustainable capacity for conducting operational research utilizing "One Health" approach, and apply the insights gained to make informed decisions that enhance public health.

Biennium Budget

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 245 000	USD 500 000
Designated funds	USD 300 000	USD 700 000
Total	USD 545 000	USD 1 200 000

Planned Budget

Undesignated funds	USD 210 000
Designated funds	USD 300 000
Total	USD 510 000

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 300 000	USD 500 000
Designated funds	USD 200 000	USD 700 000
Total	USD 500 000	USD 1 200 000

Planned Budget

Undesignated funds	USD 330 000
Designated funds	USD
Total	USD 330 000

ER Biennium Risks

Biennium: 2026-2027

ERRisk - 0339: Insufficient funding

Actions To Mitigate Risk: Expand the scope of fund raising activities. Prospect with new partners on joint projects and fund raising activities.

Mitigation Status: On Track

Biennium: 2024-2025

ERRisk - 0291: Insufficient funding

Actions To Mitigate Risk: Expand the scope of fund raising activities. Prospect with new partners on joint projects and fund raising activities.

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2026-2027

EROutp-0431: OR/IR strategies and priority research subjects endorsed by stakeholders at relevant levels in two countries (4 countries for the US$ 50 million scenario).

Output Indicator: OR/IR strategies for countries to build effective systems for monitoring and responding to emerging drug resistance of all relevant infectious agents

Output Target Date: 31/12/2027

Output Progress Status:

Output Progress Description:

Biennium: 2026-2027

EROutp-0430: Number of report / publications / examples released (8 new reports/publications and 2 examples of good practice made available ; 16 publications for the US$ 50 million scenario)

Output Indicator: Documentation of practical approaches to improve targeted treatment and reduce drug misuse and risk of resistance development and spread

Output Target Date: 31/12/2027

Output Progress Status:

Output Progress Description:

Biennium: 2024-2025

EROutp-0358: Strategies and activities endorsed by stakeholders at relevant levels

Output Indicator: OR/IR strategies for countries to build effective systems for monitoring and responding to emerging drug resistance of all relevant infectious agents

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: All 120 studies, including recent projects, and activities in 11 countries (Colombia, Ecuador, Egypt, Ghana, Iran, Myanmar, Nepal, Sierra Leone, Tunisia, UAE, and Uganda) have been endorsed by the national AMR committees of the respective countries.

Recognized as national research priorities, these studies provide actionable evidence to inform policy and practice.

Biennium: 2024-2025

EROutp-0357: Research proposals/publications/communication videos/ evidence brief and examples of good practice made available

Output Indicator: Documentation of practical approaches to improve targeted treatment and reduce drug misuse and risk of resistance development and spread

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: Since 2019, 120 projects have been launched, yielding 102 publications (96 from courses, 3 from impact grants and 3 editorials), 90 evidence briefs, and 90 lightning videos for diverse audiences.

2024-2025

Between 2024 and 15 October 2025, 114 outputs were produced, including 24 publications, 30 evidence briefs, 30 lightening videos, and 30 elevator pitches. This includes 21 examples of good practice that have demonstrated tangible impact on policy and practice—11 from Ghana, 3 from Nepal, and 7 from Sierra Leone.

In 2025

A total of 56 individuals were trained (including through Training of Trainers) across 34 new projects:

- 12 in EMRO countries (Egypt, Iran, Tunisia, UAE) on AMR,
- 10 in Ghana on impact assessments, and
- 12 across regional projects in Ghana, Nepal, and Sierra Leone.

Global impact:

SORT IT has emerged as a global model for impactful research. According to the 2025 TDR metrics survey, 79% of 75 AMR studies conducted through SORT IT influenced policy or practice—underscoring the programme's strong record of translating research into actionable outcomes.

In 2024

- Research Activity: Since 2019, 112 projects have been launched, yielding 87 publications, 80 evidence briefs, and 80 lightning videos.
- Recent Projects (2024–2025): 22 new studies, including 12 under the SORT IT initiative in Al Ain, UAE (20 institutions, 10 countries, AMR focus in Egypt, Iran, Tunisia, UAE) and 10 assessing research impact in Ghana.
- Good Practice: 11 success stories published in a special journal issue—2 from Ghana, 2 from Nepal, 7 from Sierra Leone.

ER Biennium Outcomes

Biennium: 2026-2027

EROutc-0152: Strengthened evidence-base for policy and practice decisions on AMR

Progress made towards outcome :

Biennium: 2024-2025

EROutc-0102: Guidelines, policies or policy implementation plans (as applicable) informed by TDR outputs

Progress made towards outcome : Key Achievements (Sept 2025): 1. Advancing Policy-Relevant Research Implementation. TDR 2025 annual metrics surveys show that SORT IT's AMR research is driving policy change—79% of 75 studies in Asia, Africa, and Latin America influenced policy or practice—while building leadership capacity in health research and transversally strengthening health systems. Among SORT IT trainees: • 92% have applied their skills to tackle AMR, • 64% have completed additional research studies, and • 36% are now mentoring others in operational research. • 50% have contributed to efforts addressing emerging infections, Examples of Research Driving Policy and Practice Change 1.1. Ghana: One Health AMR Research Catalyzes Policy and Practice Shifts In Ghana, One Health–focused AMR research is showing results: of 12 studies assessed in TDR's annual survey, 9 (75%) influenced policy or practice. These nine studies underwent formal impact assessment through the SORT IT Impact Assessment Program. A Training of Trainers also engaged 11 participants, building sustainable research leadership. By capturing field-level outcomes, TDR demonstrates how research strengthens health systems, enhances public health, and delivers value for money—key for attracting new investments amid declining global health funding. A special issue on Ghana's work is available: Field Impact of the SORT IT Initiative on Combating Antimicrobial Resistance Through a One Health Approach in Ghana.In Ghana, One Health–focused AMR research is delivering results. Of 12 studies assessed in TDR's annual survey, 9 (75%) have influenced health policy or practice. Field Impact of the SORT IT Initiative on Combating Antimicrobial Resistance Through a One Health Approach in Ghana 1.2. Colombia and Ecuador: AMR Research Drives Policy Action In Colombia and Ecuador, AMR research is influencing decision-making. Of 12 studies conducted in the region, 10 (83%) have led to changes in policy and/or practice. These findings are being documented in 2025 through mixed-method surveys in collaboration with PAHO, helping to inform regional strategies. 1.3. Sierra Leone: IPC Research shapes Global WHO Guidance Infection prevention and control (IPC) research from Sierra Leone is shaping global standards. Evidence and tools developed through this research are featured in WHO's implementation guide for the Global IPC Strategy, in the section on using "data for action." This guidance is set to influence the policies and practices of global and regional stakeholders, including major funders.

P20-00123: Senior Knowledge Management trainer: provide technical support and training to participants on SORT IT courses (Sierra Leone and Nepal) on antimicrobial resistance (AMR)

PI Name : Anthony D. Harries
Project Start Date :
Project End Date :

P20-00118: Technical support for conducting a "survey to inform rescheduling of upcoming SORT IT courses on Antimicrobial Resistance due to COVID-19

PI Name : Selma Dar Berger
Project Start Date :
Project End Date :

P20-00008: Provide research assistance in the creation of a COVID-19 Data Platform and Repository/Registry tracking sheet

PI Name : Alisa Denisiuk
Project Start Date : 01/09/2020
Project End Date : 15/12/2020

C00016: APW with the Union for Independent review of ethics considerations for analysis of routine prog for SORT IT courses

PI Name : Selma Dar Berger
Project Start Date : 26/02/2020
Project End Date :

B80197: Providing senior technical expertise for implementing the Structured Operational Research and Training Initiative (SORT IT) on antimicrobial resistance in Low- and Middle-Income Countries

PI Name : Alexandre Delamou
Project Start Date : 06/06/2019
Project End Date :

B80196: Providing senior technical expertise for implementing the Structured Operational Research and Training Initiative (SORT IT) on antimicrobial resistance in Low- and Middle-Income Countries

PI Name : Hayk Datvyan
Project Start Date : 06/06/2019
Project End Date :

B80174: Providing senior technical expertise for implementing the Structured Operational Research and Training Initiative (SORT IT) on antimicrobial resistance in Low- and Middle-Income Countries

PI Name : Maria Zolfo
Project Start Date : 30/04/2019
Project End Date :

B80173: Providing senior technical expertise for implementing the Structured Operational Research and Training Initiative (SORT IT) on antimicrobial resistance in Low- and Middle-Income Countries

PI Name : Debra Donckel
Project Start Date : 01/07/2019
Project End Date : 15/10/2021

B80168: Providing senior technical expertise for implementing the Structured Operational Research and Training Initiative (SORT IT) on antimicrobial resistance in Low- and Middle-Income Countries

PI Name : Selma Dar Berger
Project Start Date : 16/04/2019
Project End Date :

ER Country Links

WHO Region : AFRO **Country:** Ghana **World Bank Income Group :** Lower middle income

WHO Region : AFRO **Country:** Uganda **World Bank Income Group :** Low income

WHO Region :	AFRO	**Country:**	Sierra Leone	**World Bank Income Group :**	Low income
WHO Region :	AMRO	**Country:**	Ecuador	**World Bank Income Group :**	Upper middle income
WHO Region :	AMRO	**Country:**	Colombia	**World Bank Income Group :**	Upper middle income
WHO Region :	EMRO	**Country:**	Tunisia	**World Bank Income Group :**	Lower middle income
WHO Region :	EMRO	**Country:**	Egypt, Arab Rep.	**World Bank Income Group :**	Lower middle income
WHO Region :	EMRO	**Country:**	Iran, Islamic Rep.	**World Bank Income Group :**	Upper middle income
WHO Region :	EMRO	**Country:**	United Arab Emirates	**World Bank Income Group :**	High income
WHO Region :	SEARO	**Country:**	Nepal	**World Bank Income Group :**	Low income
WHO Region :	SEARO	**Country:**	Myanmar	**World Bank Income Group :**	Lower middle income

Expected Result: 1.1.5

Title: Directions for development and accelerated access to new tools and strategies

Strategic Work Area: Research for implementation

Workstream: Research for implementation

ER type: Continuing

Funding type: UD

Start date: 01/01/2018

End date: 31/12/2027

ER status: On Track

Comment: For Internal Use: Broader accessibility of the E.R. to whole Unit will be ensured for best utilization of opportunities

WHO region: Global

Partners: TBD

Diseases: Not Disease-Specific

Review mechanism: Scientific working group + other ad hoc or collaboration-based review systems as appropriate

ER manager: Christine HALLEUX

Team: Christine Halleux, Florence Fouque, Corinne Merle, Mariam Otmani, Vanessa Veronese, Rony Zacharriah

Number of people working on projects: 1

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: Clearance obtained when applicable (none required yet for 2024-25 biennium).

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	No	Build strengths:	Yes
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	All work in this area is strictly aligned with TDR new strategy and global health challengesennium
Roles complimentary:	Yes	Collabortion bring together different partners expertise
Coordination transparent:	Yes	Work is coordinated through written agreement (e.g. Moxidectin) or specific ad hoc agreement
Visibility:	Yes	Work of the different collaborators is acknowledged

Objectives and results chain

Approach to ensure uptake:	We engage with country institutions to identify research need and design research intervention. By involving potential end users from the beginning and ensuring that the research respond to their need, we optimize uptake.
Up-take/Use Indicator:	Number of: a) projects/initiatives which take into account TDR contributions/directions; and b) researchers, developers, organizations, funders utilizing TDR input/output
Gender and geographic equity:	Gender and geographic equity considerations will be included
Publication plan:	TBD
Up-take/use indicator target date:	31/12/2025

Sustainable Development Goals

Good Health and Well-being

Concept and approach

Rationale:	Control programme objectives cannot be reached for many poverty-related infectious diseases, especially NTDs, because they lack new effective and safe tools, optimally implemented, for their diagnosis and treatment, as well as efficient methods for quantifying the effect.
Design and methodology:	Inclusiveness and openness are the guiding principles. The scope of this project covers essential, intertwined elements to develop and assess the right tools that will help achieve control and elimination targets.
Approach to ensure quality:	Different approaches are put in place to ensure quality of the work: selection and approval of projects by an independent external experts group; regular monitoring of progress by TDR and validation of final report by scientific working group when relevant; compliance with ethical standards.

ER Objectives

ERObj-0003 : 1. Foster innovation to fill gaps in new products for neglected infections

ERObj-0004 : 2. Engage stakeholders

ERObj-0005 : 3. Identify priorities, opportunities

Biennium Budget

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 100 000	USD 180 000
Designated funds	USD	USD
Total	USD 100 000	USD 180 000

Planned Budget

Undesignated funds	USD 50 000
Designated funds	USD
Total	USD 50 000

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 160 000	USD 300 000
Designated funds	USD	USD
Total	USD 160 000	USD 300 000

Planned Budget

Undesignated funds	USD 70 000
Designated funds	USD
Total	USD 70 000

ER Biennium Risks

Biennium: 2026-2027

ERRisk - 0328: Resistance to change by key stakeholders unwilling to adopt new solutions

Actions To Mitigate Risk: Achieving critical mass of supporters; showing concrete results

Mitigation Status: Planning phase

Biennium: 2024-2025

ERRisk - 0282: Resistance to change by key stakeholders unwilling to adopt new solutions

Actions To Mitigate Risk: Achieving critical mass of supporters; showing concrete results

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2026-2027

EROutp-0412: Number of R&D initiatives informed by TDR research project output or TDR staff /adviser expertise. Target: at least 2 by 2027 and five for the US$ 50Mo scenario)

Output Indicator: Outputs of TDR research projects and TDR staff and adviser expertise used to provide directional perspective for R&D new tools (including advice/support to R&D sponsors) as well as new ways of implementing the tools

Output Target Date: 31/12/2027

Output Progress Status:

Output Progress Description:

Biennium: 2026-2027

EROutp-0411: Annual report produced and Scientific working group meeting organized yearly. (Target: Oversight of IMP work by the Scientific Working Group, with one yearly meeting, organized)

Output Indicator: Strategy development, implementation and monitoring

Output Target Date: 31/12/2027

Output Progress Status:

Output Progress Description:

Biennium: 2024-2025

EROutp-0350: Number of disease control programmes using generic protocols to inform their Implementation Research studies

Output Indicator: Generic protocols to address Implementation Research issues encountered by different disease control programmes

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: The generic protocols for the ShooRT study and TB4Child have been used by several national control programmes to conduct research at country level , generating evidence that will in turn inform guidelines revisions. The toolkit for social protection schemes for people with tuberculosis and affected households has been finalized. A new research package to guide survey of malaria vaccin coverage has been finalized (link with ER 1.2.6). The protocol for the evaluation of the RDTs for VL is under finalization (link with ER 1.2.1)

Biennium: 2024-2025

EROutp-0349: Scientific working group meeting reports and recommendations

Output Indicator: Strategy development, implementation and monitoring

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: The SWG meeting is scheduled for end of November 2025 and the activities report has been provided to the SWG members in advance of the meeting for their review.

Biennium: 2024-2025

EROutp-0348: Number of R&D initiatives informed by TDR research project output or TDR staff /adviser expertise (at least 4 by 2023)

Output Indicator: Outputs of TDR research projects and TDR staff and adviser expertise used to provide directional perspective for R&D new tools (including advice/support to R&D sponsors) as well as new ways of implementing the tools

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: The following R&D initiatives have been informed by TDR research project output or TDR staff / adviser expertise:

Development of moxidectin for the control and elimination of onchocerciasis (TDR input into protocols and research programmes)

Validation of RDTs for visceral leishmaniais (see ER 1.2.1)

Application of sterile insect technology for control of VBDs (see ER 1.3.14)

Strategy development, implementation and monitoring

ER Biennium Outcomes

Biennium: 2026-2027

EROutc-0139: TDR implementation research is aligned with and responding to countries and programmes health needs to tackle infectious diseases of poverty

Progress made towards outcome :

Biennium: 2024-2025

EROutc-0094: Accelerated access to new tools and stategies

Progress made towards outcome : TDR has provided input into a certain number of initiative to support developpment and implementation of new tools and strategies (see cross cutting work with ER 1.2.1, 1.2.6, 1.1.15).

ER Project Links

ER Country Links

Expected Result: 1.1.7

Title: Maximized utilization of data for public health decision-making for UHC/SDGs

Strategic Work Area: Research for implementation

Workstream: Research for implementation

ER type:	Continuing	**Funding type:**	UD and DF
Start date:	01/01/2012	**End date:**	31/12/2027
ER status:	On Track	**Comment:**	We advanced UHC and SDGs by: 1) influencing TB disability policy, 2)adapting 7-1-7 metrics for TB preventive therapy, 3) addressing the Africa francophone research gaps 4) tackling emerging infections, 5) improving communication for research uptake.

WHO region: Global

Partners: The SORT IT global partnership includes 87 partner institutions includuing Public health programmes in target countries, ministries of health, NGOs, academic institutions and WHO country offices.

Diseases: COVID-19;Ebola;Malaria;Neglected Tropical Diseases;Schistosomiasis;Tuberculosis;Epidemics and outbreaks;Control and elimination of diseases of poverty;Climate change's impact on health

Review mechanism: WHO country and regional offices, National disease control programme, Scientific working group + other collaboration-based review systems as appropriate

ER manager: Rony ZACHARIAH

Team: Corinee Merle, Edward Kamau, Ekua Johnson, Garry Aslanyan, Maier Mary, Michelle Villasol, Rony Zachariah, Robert Terry.

Number of people working on projects: 14

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: FENSA clearances received as applicable

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Aligned	

Roles complimentary:	Yes	WHO country offices and SORT IT partners leverage their local convening power and allow use of their personnel for expansion. Training of trainers is integrated as part of the strategy
Coordination transparent:	Yes	Collaboration with WCOs and Disease control programmes, Regular online meetings with partners to coordinate activities. Selections criteria and SOPs. All research subjects and trainees are endorsed by national selection committees.
Visibility:	Yes	The TDR website is updated every quarter and all reports and training documents are archived. All published studies are open access and disseminated through various channels. A new module on communication developed for effective dissemination

Objectives and results chain

Approach to ensure uptake: Early engagement with expected end-users ensures local research relevance, while regular updates to stakeholders and related programs, along with their active involvement in project selection, planning, implementation, and policy development, enhance collaboration. New training modules on real-time data management and capacity-building for effective research communication with decision-makers have been developed and integrated into all training sessions.

Up-take/Use Indicator: Routine surveys conducted 12-15 months after research completions, new or updated/improved guidelines, policies, implementation plans and/or practice (as applicable) informed by TDR outputs. Operational research on operational research for impact assessment.

Gender and geographic equity: All calls emphasize TDR's commitment to equality, diversity, and inclusivity in science. Researchers of all gender identities, sexual orientations, ethnicity, religious, cultural, and social backgrounds, and (dis)abilities are encouraged to apply. Geographic equity is also prioritized in the selection of trainees and projects but oriented by funding obligations. The focus is on vulnerable and excluded groups, aligning with efforts to achieve UHC.

Publication plan: Open access publications; policy and issue briefs; TDR gateway, documents for WHO control programmes

Published papers that became fully accessible in 2025 (TDR Led/funded activities)

1. The Kenya Uganda Zambia and Zimbabwe TB Disability Study Group, Adakun SA, Banda FM, Bloom A, Bochnowicz M, Chakaya J, Chimzizi R, Dongo JP, Duri C, Harries AD, Kathure I, Kavenga FN, Kumar AM V, Lin Y, Luzze H, Mbithi I, Mputu M, Mubanga A, Mudoola D, Nair D, Ngwenya M, Ntambi S, Owiti P, Owuor A, Thekkur P, Timire C, Tweyongyere E, YaDiul M, Zachariah R. TB disability and multimorbidity at the onset of treatment in Kenya, Uganda, Zambia and Zimbabwe. IJTLD Open. 2025.

2. Sun Y, Lin Y, Golub JE, Shu W, Jiang J, Xu Q, Li Y, Sun W, Shi Y, Liao J, Nie C, Liang C, Zhang X, Liu H, Ma Y, Zachariah R, Berger SD, Thekkur P, Nair D, Satyanarayana S, Kumar AMV, Harries AD. Evaluating disability, comorbidities and risk factors after TB treatment: an 18–24 month follow-up in China. IJTLD Open. 2025. Epub ahead of print.

3. Nair D, Thekkur P, Thiagesan R, Vyas A, Paul S, Mishra BK, Hota PK, Khogali M, Zachariah R, Berger SD, Satyanarayana S, Kumar AMV, Bochner AF, Ananthakrishnan R, Harries AD. Implementing timeliness metrics for household contact tracing and TB preventive treatment through TB champions in the public sector, India: an explanatory mixed-methods study. BMJ Open. 2025;15(11):e097935.

Editorials

4. Ramsay A, Kamau EM. Neglected Tropical Diseases Remain a Considerable Public Health Challenge in West Africa. Tropical Medicine and Infectious Disease. 2025; 10(3):77.

5. Seshachalam A, Niraimathi K, Raman SG, Zachariah R, Thekkur P. SORT IT empowers oncology clinicians to boost research capacity and advance universal health coverage in India. Public Health Action. 2025;15(4):183–5.

Published papers that became fully accessible in 2024 (TDR led/funded activities)

1. The Kenya Uganda Zambia and Zimbabwe TB Disability Study Group, Adakun SA, Banda FM, Bloom A, Bochnowicz M, Chakaya J, Chansa A, Chiguvare H, Chimzizi R, Colvin C, Dongo JP, Durena A, Duri C, Edmund R, Harries AD, Kathure I, Kavenga FN, Lin Y, Luzze H, Mbithi I, Mputu M, Mubanga A, Nair D, Ngwenya M, Okotu B, Owiti P, Owuor A, Thekkur P, Timire C, Turyahabwe S, Tweyongyere E, YaDiul M, Zachariah R, Zimba K. Disability, comorbidities and risk determinants at end of TB treatment in Kenya, Uganda, Zambia and Zimbabwe. IJTLD OPEN. 2024 May 1;1(5):197–205. https://www.ingentaconnect.com/content/10.5588/ijtldopen.24.0082

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3. Jalloh AT, Merson L, Nair D, Hassan S, Kamara IF, Nuwagira I, Tengbe SM, Tejan YS, Kabba M, Lakoh S, Grant DS, Samuels RJ, Kamara RZ, Terry RF. Association of cancer and outcomes of patients hospitalized for COVID-19 between 2020 and 2023. F1000Research. 2024 Jun 21;13:673. https://f1000research.com/articles/13-673

4. Yeabah TO, Kaba I, Ramaswamy G, Dahal P, Delamou A, Vonhm BT, Jetoh RW, Merson L, Levine AC, Relan P, Harries AD, Kumar AMV. Factors associated with death in patients admitted with Ebola virus disease to Ebola Treatment Units in Guinea, Sierra Leone, and Liberia – December 2013 to March 2016. F1000Research. 2024 Jun 21;13:672. https://f1000research.com/articles/13-672

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7. Millimouno TM, Grovogui FM, Kourouma K, Hassan S, Kaba I, Kamara IF, Mbasha JJ, Collins T, Merson L, Delamou A. Epidemiological profiles and outcomes of healthcare workers hospitalized for COVID-19 in five Sub-Saharan African countries: a cohort study. F1000Research. 2024 Jun 18;13:655. https://f1000research.com/articles/13-655

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Published papers from franchised SORT IT courses, which became fully accessible in 2024, but were not directly funded or mentored by TDR. However, they did involve considerable oversight by TDR to ensure that SORT IT quality control standards were maintained and that TDR materials were also used. This initiative aims to build capacity, including in high-income country (HIC) institutions, which are involved in expanding the SORT IT approach in low- and middle-income countries (LMICs)

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Up-take/use indicator target date: 31/12/2025

Sustainable Development Goals

Good Health and Well-being;Quality Education;Gender Equality;Clean Water and Sanitation;Reduced Inequality;Life Below Water;Life on Land;Partnerships to achieve the Goal

Concept and approach

Rationale:

Countries and WHO need real-world evidence from routine programme settings to guide policy implementation, operational decisions, and the development of guidelines and best practices. TDR supports this by defining relevant research questions and strengthening country capacity to compile, analyze, and interpret data, in line with SDG 17.18 on high-quality, timely, and disaggregated data.

This initiative aims to make countries and institutions "data rich, information rich, and action rich," fostering local research, solutions, and ownership. Its design emphasizes early, multi-disciplinary engagement with stakeholders and uses the output-oriented SORT IT methodology to generate actionable evidence. Research questions are aligned with national priorities, and the training model integrates TDR's three pillars—research implementation, capacity building, and global engagement—while the training-of-trainers component ensures sustainability and multiplier effects.

Design and methodology:

The design fosters early, multidisciplinary engagement with national and international AMR stakeholders. It uses the output-oriented SORT IT approach to generate and communicate evidence aligned with national priorities. The training model addresses the three TDR pillars—research implementation, capacity building, and global engagement—and includes a training-of-trainers component to create a multiplier effect and ensure long-term sustainability.

Approach to ensure quality:

Country, Partner, and Trainee Selection: The selection of countries, partners, and trainees is guided by specific criteria and project requirements, with close monitoring of progress and performance throughout the process. Investigators are chosen based on eligibility criteria, including relevant expertise and national endorsement. Proposals are vetted through reviews by experienced technical committees and external subject matter experts. Training activities are customized as needed, while mentors and collaborating institutions are selected based on criteria such as proven experience, hands-on mentorship style, and familiarity with the country context.

Quality Control and Standards: The SORT IT approach integrates its own quality and performance standards, which are monitored and reported quarterly. Publishing is a key component of the quality control process for the evidence generated. All franchised initiatives implement mandatory quality control measures, with the quality of publications monitored through independent evaluations. Standard Operating Procedures are tailored to national needs and capacities, ensuring consistency across all initiatives.

ER Objectives

ERObj-0006 : 1. Build sustainable capacity to promote and support the effective use of public health data for evidence-based decision-making

ERObj-0007 : 2. Promote and support data sharing for evidence-based decision-making (guidelines/policy/practice and research)

ERObj-0063 : 3. Strengthen health systems to accelerate efforts towards achieving UHC, SDGs and tackling public health emergencies

Biennium Budget

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 300 000	USD 450 000
Designated funds	USD 800 000	USD 900 000
Total	USD 1 100 000	USD 1 350 000

Planned Budget

Undesignated funds	USD 250 000
Designated funds	USD 800 000
Total	USD 1 050 000

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 400 000	USD 500 000
Designated funds	USD 500 000	USD 900 000
Total	USD 900 000	USD 1 400 000

Planned Budget

Undesignated funds	USD 380 000
Designated funds	USD 300 000
Total	USD 680 000

ER Biennium Risks

Biennium: 2026-2027

ERRisk - 0340: Possibility of limited or dwindling funds

Actions To Mitigate Risk: Fundraising efforts, including outside usual regular donors

Mitigation Status: On Track

Biennium: 2024-2025

ERRisk - 0292: Possibility of limited or dwindling funds

Actions To Mitigate Risk: Fundraising efforts, including outside usual regular donors

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2024-2025

EROutp-0433: Number of publications and issue briefs and research uptake tools

Output Indicator: Publications and issue/policy briefs to inform evidence-based policies/ practice

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: A total of 41 publications have been produced on topics including COVID-19, Ebola, mental health, malaria, and innovations in TB management. This includes two special issues: one in F1000 and one in the East African Medical Journal. Additionally, 20 evidence briefs on emerging infections and NTDs have been developed, along with accompanying lightening presentations for decision-makers.

Biennium: 2026-2027

EROutp-0432: Number of publications and communication briefs (16 publications and 16 communication briefs with at least 40% having an impact on evidence for change in policies/practice (24 for the US$ 50 million scenario).

Output Indicator: Publications and communication briefs to inform evidence-based policies/ practice

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description:

Biennium: 2026-2027

EROutp-0429: Number of successful trainees and number of data analyses conducted and reported (30 successful trainees and 20 data analyses conducted and reported on topics relevant to the Global Health Challenges (45 and 30 respectively for the US$ 50 M scenario)

Output Indicator: Build capacity for the effective collection and analysis and use of data for decision making

Output Target Date: 31/12/2027

Output Progress Status:

Output Progress Description:

Biennium: 2024-2025

EROutp-0360: Number of publications and issue briefs and research uptake tools

Output Indicator: Publications and issue/policy briefs to inform evidence-based policies/ practice

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: Publications and Knowledge Products: Between 2024 and 2025, 126 publications/reports were produced for various audiences. This includes:

- 46 publications covering COVID-19, Ebola, mental health, malaria, and TB innovations, including two special journal issues in F1000 and East African Medical Journal.
- 30 evidence briefs, 20 lightening videos, and 30 elevator pitches targeting decision-makers on emerging infections, TB/HIV, malaria, and neglected tropical diseases.

Impact and Authorship: 68% of research influenced policy and practice; 52% of trainees went on to pursue new research projects; 95% of publications were led by LMIC authors, with 43% female authors.

Scientific Publications

2025: A total of five publications (two on TB disability in Africa), one on timeline metrics, one on NTDs and one on adapting the SORT IT model for UHC in India.

2024: A total of 41 publications have been produced on topics including COVID-19, Ebola, mental health, malaria, and innovations in TB management. This includes two special issues: one in F1000 and one in the East African Medical Journal. Additionally, 20 evidence briefs, 20 lightening presentations and 20 elevator pitches on emerging infections and NTDs have been developed for decision-makers.

Biennium: 2024-2025

EROutp-0359: Number of successful trainees and number of data analyses conducted and reported

Output Indicator: Build capacity for the effective collection and analysis and use of data for decision making

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: In 2024–2025, a total of 254 individuals across Asia and Africa were trained through TDR-supported workshops in protocol writing, data collection, analysis, and research communication.

Data Analysis: 203 data analyses were conducted across TDR-supported projects, including 123 real-time analyses focused on TB disability and multimorbidity in Kenya, Uganda, Zambia, and Zimbabwe.

2025:

1. Individuals trained: A total of 64 individuals were trained:

TDR directly supported:

- 11 trained (1 female) on manuscript writing on TB disability/multimorbidity: In Kenya (2), Uganda (3), Zambia (4), and Zimbabwe (2).
- 12 trained (5 female) in protocol writing and data management on UHC subjects in India
- 10 trained (3 female) in Sierra Leone on data management and manuscript writing
- 31 trained in Nepal on protocol writing and data management for outbreaks

2. Data analysis done: A total of 133 data analysis done across Asia and Africa

- 123 on two weekly real-time data analysis for TB disability and multimorbidity at start and end of treatment in 4 countries : In Kenya (2), Uganda (2), Zambia (2), and Zimbabwe (2)
- 10 on HIV/TB/Malaria in Sierra Leone

3. Other outputs:

1. The SORT IT curriculum has been updated and is now available in English, French, and Russian. It offers a flexible menu of training models, including SORT IT 1.0, 2.0, and 3.0.

2. The SORT IT curriculum now integrates EpiCollect5 and Jamovi with SOPs and training materials to facilitate mobile-based data collection and streamline field-level research.

3. The SORT IT website continues to be revised regularly to reflect new changes in franchising. The criteria for designation as a SORT IT course and use of logos has been updated.

4. The university of Scotland and the University of Chester have adopted the model for enhancing health security and mental health in the UK. In India, the model has also been adopted for non-communicable diseases and cancers.

5. Development of a generic master multi-country protocol for start and end assessments of patients for managing TB disability in Kenya, Uganda, Zambia, and Zimbabwe that can be used for global scale up.

- Development of country specific data outputs on management of TB associated disability for use by countries.

2024:

1. Individuals trained: A total of 190 individuals (97, 51% female) were trained:

TDR directly supported:

- 112 trained (69 female) on TB disability: In Kenya, Uganda, Zambia, and Zimbabwe.
- 9 trained (1 female) in manuscript writing and outbreak communication: In Guinea, Liberia, DRC, and Sierra Leone.
- 14 trained (6 female) in manuscript writing and research communication: In Francophone Africa (Burkina Faso, Guinea, Mali, Niger, Senegal).
- 16 trained (6 female) in manuscript writing in Kenya. 12 trained (4 female) in communication on Neglected Tropical Diseases (NTDs)

Three franchised SORT IT courses:

- 7 trained (3 female) through a Global Fund supported training on TB by Axhya+ and NTEP of India;
- 8 Trained (3 female) on Health systems strengthening for cancer care in India (3 female);
- 12 trained (7 female) through Cheshire and Wirral partnership NHS trust on mental health

2. Data analysis done

- A total of 70 data analysis done across Asia, Africa and Europe

4 - one each on TB disability: In Kenya, Uganda, Zambia, and Zimbabwe

9 - on outbreak communication: In Guinea, Liberia, DRC, and Sierra Leone

14 - on NTDs (Burkina Faso, Guinea, Mali, Niger, Senegal)

16 on malaria elimination in Kenya

- Three franchised SORT IT courses with following numbers of data analysis

7 - on a Global Fund supported training on TB by Axhya+ and NTEP of India

8 - on Health systems strengthening for cancer care in India

12 Cheshire and Wirral partnership NHS trust on mental health

4. Other outputs:

- Revision of training curricula including updating lectures and presentations based on trainee evaluation and feedback.

- Development of a new SORT IT curriculum (Module 2), including an e-manual and Training-of-Trainers program, using Epicollect5 and Jamovi software based

on country feedback .

- Continued adaptation of the SORT IT online training platform for online or hybrid trainings based on real-time experience.

- Development of a generic multi-country protocol for managing TB disability in Kenya, Uganda, Zambia, and Zimbabwe that can be used for global scale up.

- Development of 4 country specific Standard Operating Procedures (SOPs) on management of TB associated disability for use by countries.

- Production of 22 study protocols and data collection instruments: 10 in Ghana and 12 in the EMRO region.

- 41 manuscripts: 10 on outbreaks and emerging infections, and 14 on NTDs in Francophone countries and 17 on infectious diseases in Kenya.

ER Biennium Outcomes

Biennium: 2026-2027

EROutc-0151: Strengthened evidence-base for policy and practice decisions

Progress made towards outcome :

Biennium: 2024-2025

EROutc-0103: Quality controlled publications and strengthened evidence-base for policy and practice decisions

Progress made towards outcome : 2025 Key achievements include: 1. TB and infectious diseases in vulnerable populations: 1.1 Real-time Implementation research shaping TB policies in Africa and globally. TDR-supported research using SORT IT 2.0 is improving care for people with TB-related disabilities. Studies in Kenya, Uganda, Zambia, and Zimbabwe turned WHO guidance into practice and were recognized by WHO as a 2025 World TB Day policy milestone ((see WHO article). Evidence is already shaping national strategies and guidelines, including in Uganda. Results are feeding into a McGill-led meta-analysis to guide WHO's global TB and disability policy. In 2025, new Luxembourg funding (LuxBridges) will expand the work to Benin, Guinea, and Senegal—boosting regional and global impact. 1.2 The SORT IT model is now incorporated into Myanmar's 2026–2030 National TB Strategic Plan This reflects the sustainable, long-term impact of SORT IT and TDR's collaboration with partners in Myanmar and the region. 1.3. Strengthening Sierra Leone's Capacity to Utilize Global Fund Grants (in collaboration with RCS) This initiative strengthens Sierra Leone's capacity to secure and manage Global Fund grants for HIV, TB, and malaria, aiming to improve grant utilization and program performance for sustainable impact. In 2025, efforts will continue with the completion and expansion of 12 operational research studies, expected by November. 1.4. Bridging the Francophone Research Gap in Africa for HIV, TB, and Malaria (in collaboration with RCS) With TDR and partner support, the University Gamal Abdel Nasser in Guinea has been designated a Center of Excellence in Operational Research for Francophone Africa. To improve access, SORT IT training materials are now available in French. A four-year SORT IT 2.0 initiative, funded by Luxembourg, will build research capacity on HIV, TB, and malaria while strengthening use of Global Fund grants. From 2025, one country will join each year—Guinea, Benin, Senegal—followed by a final year of impact assessment. 1.5. Health Systems Strengthening and Leadership for Universal Health Coverage (UHC) in India A new SORT IT 1.0 initiative in India is strengthening health systems and leadership for universal health coverage (UHC). Nineteen institutions are participating. Twelve research projects on major global health challenges began in July 2025 and will finish in 2026. 2. Emerging infections and outbreaks 2.1. Building capacity of front-line workers for outbreak response with the pandemic fund in Nepal This initiative trains and empowers health workers to respond to disease outbreaks, strengthening health systems and national health security. A SORT IT 2.0 program on data-driven implementation research will launch in December 2025 with WHO SEARO, WHO

Nepal, and the Pandemic Fund. 2.2 Boosting Leadership and Frontline Capacity to Tackle Mpox in Sierra Leone The ongoing mpox outbreak in Sierra Leone is testing the country's public health system. TDR-trained frontline workers have been key, showing how implementation research, leadership, and frontline capacity build health emergency resilience. Over 700 workers were rapidly trained, IPC measures strengthened, and national policies updated. Lessons learned were shared via a newsletter and blog, highlighting TDR's contribution to outbreak response training. https://tdr.who.int/newsroom/news/item/11-06-2025-boosting-leadership-and-frontline-capacity-to-tackle-mpox-in-sierra-leone 3. Strengthened institutions and/or networks: The SORT IT global partnership has expanded to include 87 partners, a testament to the global interest and success of its initiatives and outcomes. 4. Other outputs: • The SORT IT curriculum has been updated and is now available in English, French, and Russian. It offers a flexible menu of training models, including SORT IT 1.0, 2.0, and 3.0. • The SORT IT curriculum now integrates EpiCollect5 and Jamovi to facilitate mobile-phone data collection and streamline field-level research. • All SORT IT projects franchised by TDR have met the required standards. The website continues to be revised regularly to reflect new changes in franchising. The criteria for designation as a SORT IT course and use of logos has been updated. 2004 A total of 41 publications were produced, all of which appeared in peer-reviewed journals to ensure external quality control. Notably, 68% of the research influenced policies and practices, while 52% of those trained continued with new research, demonstrating significant capacity-building outcomes. Key achievements include: 1. TB Disability Research Shaping WHO Policy: Multicountry data and publications on TB disability are directly contributing to WHO policy and guidelines. The Global TB Programme recognizes these efforts as a major milestone in shaping global TB policy. 2. Mobile Data Capture in TB Programs is being scaled up: Experience with mobile phone data capture in TB programs is being scaled up in Kenya, Uganda, Zambia, and Zimbabwe, demonstrating successful adaptation and expansion. 3. Mpox Survey and utilization of acquired SORT IT skills. According to a recent survey, 54 out of 124 SORT IT alumni surveyed, from 28 countries, have been actively involved in Mpox preparedness and response. Among these, 93% are applying the skills they acquired through SORT IT in their current roles 4. Metric Approach shaped Global policy on TB prevention: This approach enhances the early detection, notification, and response to TB cases, aiming to reduce transmission and improve outcomes. It was featured in the 2024 WHO Operational Handbook on TB Preventive Therapy and is being adapted for use in outbreak responses and Mpox. 5. The west Africa NTDs and snakebite initiative: AA new initiative in west Africa including four countries (Burkina Faso, Mali, Niger and Senegal) is enhancing country's capacity to utilize NTDs including snake bite program data for evidence-informed decision making. A strong south-south collaboration has been established among these countries and AIPH, in Burkina Faso and CEA-PCMT, in Guinea and with the support of national NTDs program, through provision of technical expertise by SORT IT alumni based in Guinea. 14 manuscripts have been developed and are undergoing peer-review for publication in a special issue of TMID https://www.mdpi.com/journal/tropicalmed/special_issues/NTD_West_Africa. SORT IT module 4 on effective research communication will be conducted in the last week of September 2024. 6. Triggered improvements in international Data sharing and Management: Based on challenges identified through SORT IT work on shared Ebola and COVID-19 data, IDDO is implementing changes to enhance tailored data extraction, address quality issues, standardize reporting forms, and introduce capacity-building measures. 7. Innovative Research Dissemination: TDR has pioneered a new initiative linking lightning videos with journal publications to improve research dissemination to decision-makers. This initiative stems directly from TDR's work on enhancing research communications. 7. Expansion of SORT IT Global Partnership: The SORT IT global partnership has expanded to include 87 partners, a testament to the global interest and success of its initiatives and outcomes. In addition, the SORT IT virtual platform has been translated into French and Russian versions. The French version will be pilot tested during the SORT IT module 4 course in Conakry (see item #4 above).

ER Project Links

P24-01281: UGANDA - Financial management support for in-country expenses: operational research project for managing disability, co-morbidities and risk factors associated with tuberculosis in Uganda (phase 2)	**PI Name :** John Paul Dongo **Project Start Date :** 15/04/2024 **Project End Date :** 30/09/2024
P24-01278: KENYA - Financial management support for in-country expenses: operational research project for managing disability, co-morbidities and risk factors associated with tuberculosis in Kenya (Phase 2)	**PI Name :** Jeremiah Chakaya **Project Start Date :** 15/04/2024 **Project End Date :** 30/09/2024
P24-01277: Development of databases and quality assurance: operational research project for managing disability, co-morbidities and risk factors associated	**PI Name :** Divya Nair **Project Start Date :** 15/04/2024

with tuberculosis in Zambia, and Zimbabwe (Phase 2)	**Project End Date :** 30/12/2024
P24-01276: Development of databases and quality assurance: operational research project for managing disability, co-morbidities and risk factors associated with tuberculosis in Kenya and Uganda (Phase 2)	**PI Name :** Pruthu Kalasappa **Project Start Date :** 15/04/2024 **Project End Date :** 30/12/2024
P24-01275: ZAMBIA - Financial management support for in-country expenses: operational research project for managing disability, co-morbidities and risk factors associated with tuberculosis in Zambia (Phase 2)	**PI Name :** Monde Muyoyeta **Project Start Date :** 15/04/2024 **Project End Date :** 31/12/2024
P24-01273: GES (Invoice No. 001) payment for administrative fees for the SL Ethics & Scientific Review Committee	**PI Name :** Jonta Kamara **Project Start Date :** 08/04/2024 **Project End Date :** 30/04/2024
P24-01260: GES (Invoice No. 31500070) payment for IJTLD-02-24-0082.R1	**PI Name :** **Project Start Date :** 20/05/2024 **Project End Date :** 20/06/2024
P24-01249: Providing senior (second-line) operational research and subject matter expertise for the Structured Operational Research and Training Initiative (SORT IT) on pandemics and antimicrobial resistance in Low- and Middle-Income Countries.	**PI Name :** Anthony D. Harries **Project Start Date :** 20/03/2024 **Project End Date :** 01/11/2024
P24-01240: Senior level expertise & technical support for the implementation of a path-finder project (real time implementation research) for assessing and managing disability, co-morbidities and risk factors associated with TB after completing TB treatment in China	**PI Name :** Selma Dar Berger **Project Start Date :** 02/04/2024 **Project End Date :** 30/03/2025
P24-01237: Providing technical and software support for maintenance and adaptation of the virtual SORT IT platform (e-SORT IT) in 2024	**PI Name :** Hayk Datvyan **Project Start Date :** 10/03/2024 **Project End Date :** 10/03/2025
P24-01233: Databases, metrics and archives on SORT IT activities and performance standards: courses, participants, facilitators, milestones, outcomes, publications, impact and other relevant materials - (2024/2025)	**PI Name :** Selma Dar Berger **Project Start Date :** 10/03/2024 **Project End Date :** 31/01/2025

ER Country Links

WHO Region :	AFRO	**Country:**	Burkina Faso	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Zambia	**World Bank Income Group :**	Lower middle income

WHO Region :	AFRO	**Country:**	Ethiopia	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Uganda	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Guinea	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Senegal	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Congo, Dem. Rep.	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Kenya	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Zimbabwe	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Zambia	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Mali	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Niger	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Mali	**World Bank Income Group :**	Low income
WHO Region :	EURO	**Country:**	Armenia	**World Bank Income Group :**	Upper middle income

Expected Result: 1.2.1

Title: Strategies to achieve and sustain disease elimination

Strategic Work Area: Research for implementation

Workstream: Research for implementation

ER type: Continuing

Funding type: UD and DF

Start date: 01/03/2014

End date: 31/12/2027

ER status: Delayed

Comment: Delay given political situation in some countries, and given the freeze in consultant recruitement at WHO.

WHO region: Global

Partners: Control programmes and research institutes in countries; WHO NTD department; global stakeholders. For VL: DNDi, ITM, FIND. For oncho elimination, also:

Medicines Development for Global Health, Communauté Evangelique au Centre de l'Afrique (CECA20)

Diseases: Onchocerciasis;Visceral leishmaniasis;Control and elimination of diseases of poverty

Review mechanism: Scientific working group + other ad hoc or collaboration-based review systems as appropriate

ER manager: Christine HALLEUX

Team: Michelle Villasol, Annette Kuesel, Christine Halleux

Number of people working on projects: 100

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: FENSA clearance obtained when applicable

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Aligned
Roles complimentary:	Yes	Partners were select to complement TDR capacity such as being positioned on the field, linked with Ministries of Health and potential end-users, experts bringing their knowledge to support TDR project.
Coordination transparent:	Yes	Coordination transparent
Visibility:	Yes	Visibility of TDR highlighted

Objectives and results chain

Approach to ensure uptake:	Control programmes and researchers from concerned countries, as well as WHO 3 levels are fully engaged in the design and implementation of the research. By involving potential end users from the beginning and ensuring that the research respond to their need, we optimize uptake.
Up-take/Use Indicator:	TDR outputs considered among evidence informing decision-making at global, regional and national levels
Gender and geographic equity:	Work will target LMICs (for oncho in Africa, for VL Nepal/Bangladesh and Eastern African countries). Whenever possible funding to women investigators will be favoured. Whenever possible results of research will be disaggregated by gender. This area of work is contributing to equity as it address diseases amoung the most neglected (oncho and VL).
Publication plan:	TDR news, peer review publications, presentation at international congress, dissemination in-country including policy brief
Up-take/use indicator target date:	31/12/2029

Sustainable Development Goals

Good Health and Well-being;Reduced Inequality;Partnerships to achieve the Goal

Concept and approach

Rationale:	Some diseases are targeted for elimination in certain areas. Research is needed to inform appropriate strategies and practices. While some of these can be broadly applied, others need to be targeted to the disease, and/or the interventions and/or specific epidemiological setting and/or the extent to which prevalence/incidence of infection have been reduced and the elimination goal (elimination as a public health problem or elimination of transmission). TDR has decades long history of research for the tools that have allowed countries targeting VL elimination in the ISC and onchocerciasis elimination where feasible in Africa. TDR has been funding and managing research to support these elimination goals in past biennia and is continuing this work as recommended by the scientific working group, including support to VL control/elimination in Eastern Africa following the recommendations in the new WHO NTD Roadmap 2021-2030.
Design and methodology:	Continuation of collaboration with and between researchers and national/regional or global control programmes. Research will be designed to address specific knowledge gaps and research priorities, and will be conducted by qualified investigators (with appropriate training).
Approach to ensure quality:	Selection of investigators and proposals with appropriate expertise through review of their proposals and progress reports/renewal requests by the scientific working group complemented by external subject matter experts (ad hoc reviewers). Regular monitoring of the projects by TDR. Involvment of external experts when specific knowledge is required.

ER Objectives

ERObj-0011 : Generate evidence to guide programmes on strategies to achieve and sustain elimination, where and when to stop intervention and how to certify elimination

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Biennium Budget

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 415 000	USD 800 000
Designated funds	USD 500 000	USD 500 000
Total	USD 915 000	USD 1 300 000

Planned Budget

Undesignated funds	USD 265 000
Designated funds	USD 500 000
Total	USD 765 000

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 540 000	USD 1 300 000
Designated funds	USD 100 000	USD 300 000
Total	USD 640 000	USD 1 600 000

Planned Budget

Undesignated funds	USD 490 000
Designated funds	USD 42 000
Total	USD 532 000

ER Biennium Risks

Biennium: 2026-2027

ERRisk - 0327: Insufficient funding

Actions To Mitigate Risk: Raise awareness of potential donors; explore alternative ways of supporting work

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0326: Research question are not targetting key priorities for programmes

Actions To Mitigate Risk: Ensure large involvement of WHO country/regional/HQ level and of country representatives in discussion to identify priority research questions.

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0325: Delay in research activites due to political situation or due to hiring freeze in WHO

Actions To Mitigate Risk: Plan carefully activities, work as much as possible with local partners. Advocate at TDR level for exemption status to ensure activities can proceed if funding is available.

Mitigation Status: On Track

Biennium: 2024-2025

ERRisk - 0324: Delay in research activites due to political situation or due to WHO current recruitement freeze and complexity for procurement of individuals

Actions To Mitigate Risk: Plan carefully activities, work as much as possible with local partners. Actions can only provide limited mitigation effect however, and activities have been delayed

Mitigation Status: On Track

Biennium: 2024-2025

ERRisk - 0280: Research question are not targetting key priorities for programmes

Actions To Mitigate Risk: Ensure large involvement of WHO country/regional/HQ level and of country representatives in discussion to identify priority research questions.

Mitigation Status: On Track

Biennium: 2024-2025

ERRisk - 0277: Insufficient funding

Actions To Mitigate Risk: Raise awareness of potential donors; explore alternative ways of supporting work

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2026-2027

EROutp-0410: Evidence generated. Results of studies supporting efforts towards oncho elimination disseminated. (Target for VL and Oncho: at least resutls of four studies; target for 50Mo budget: results of at least seven studies; contingency: results of 3 studi)

Output Indicator: Generate evidence to support efforts towards elimination of onchocerciasis: Data to support WHO guidelines and onchocerciasis endemic country registration and policies on moxidectin for onchocerciasis elimination

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: Continuation of 2024 - 2025 work. However, there is very limited funding for onchocerciasis. ADP funding likely to be reduced for moxidectin in the future and new sources of funding are being explored to ensure we can continue on this work area. Consultant support (A Kuesel) 0 cost consultancy continues to provide support on behalf of TDR for the development of moxi aiming at introduction in mass drug administration.

Biennium: 2026-2027

EROutp-0409: Evidence generated. Results of studies supporting efforts towards VL elimination disseminated. (Target for VL and Oncho: at least results of four studies; target for 50Mo budget: results of at least seven studies; contingency: results of 3 studies.)

Output Indicator: Generate evidence to support efforts towards elimination of VL

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: While activities were delayed in 2025, they are now on track as per the new adjusted timelines of progress for 2026. The work for this year, includes mainly continuation of 2024-2025 activities, including 1) completion of studies in Nepal and Bangladesh (slight delay, 2) completion of data analysis for the study on health system capacity for diagnosis and treatment of VL in Eastern Africa (major delay), 3) new call for proposals in eastern africa (major delay in 2025, call released in November 2025, selection being finalized - should be implemented without furth delay in 2026), 4) VL RDT performance evaluation in eastern Africa (major delay in 2025, mainly due to hold in consultant recruitement process, consultant was finally recruited in September and started working on 1st Oct 2025, project has made very good progress since then and no further delay is expected in 2026), 5) Study on VL vector presence and behaviour in Uganda intiated in 2025, results pending for 2026 (on track), 6) co-organization with WHO NTD and DNDi of VL global meeting initially scheduled for June 2025 cancelled / postponed to 2026 following WHO recommendation to reduce travel in 2025, the meeting is now scheduled for 2026 (major delay in 2025, now on track for 2026)

Biennium: 2024-2025

EROutp-0347: Report to scientific working group; results delivered to the country control programmes

Output Indicator: Generate evidence to support establishment of programmes towards elimination of VL in Eastern Africa

Output Target Date: 31/12/2030

Output Progress Status: On Track

Output Progress Description: VL endemic countries in Eastern Africa have requested for WHO support to address the growing problem of VL in the region. TDR is collaborating with WHO to support the launch of a VL elimination programme in Eastern Africa with lessons drawn from the successful experience of the Kala-Azar Elimination Programme in the Indian subcontinent.

Progress in 2025:

1) In support of the regional VL elimination plan, TDR and WHO initiated work to assess programme capacities in VL-endemic countries in East Africa to implement WHO's treatment recommendations towards achieving universal health coverage and NTD roadmap targets. A team of investigators at the University of Gondar, Ethiopia, has been leading the review of programme status in Eritrea, South Sudan and Sudan to identify areas for strengthening in the launch of elimination efforts. The study was initiated in 2024 but has suffered several delay due to field work complexities and political instabilities in the target countries. The data completion has been however completed and the final analysis is ongoing.

2) In addition, TDR is working with WHO on preparations for the comparative evaluation of the performance of point of care rapid tests in the diagnosis of VL in the Eastern African region. The GADx test that was originally tested will be discotinued and new evidence is needed on what tests work best in African population. TDR in collaboration with WHO/NTD plans to identify the best RDTs for the diagnosis of VL in Eastern Africa through a 2-phased approach as follows:

a) Phase 1: Rapid validation of the performance and operational characteristics using archived specimens from East Africa.

b) Phase 2: prospective field studies if the result of the laboratory evalution identifies promising RDTs.

Progress in 2025:

While field studies were initially planned with GADx, the manufacturer informed WHO NTD that they not be in position to continue the supply of the RDTs and that the production of GADx VL RDTs will be discontinued; field studies with GADx were therefore cancelled. New RDTs are in the process to being identified and the protocol for lab evaluation has been revised.; sites have been identified. The performance evaluation on archived samples in eastern Africa.

Biennium: 2024-2025

EROutp-0346: Report to scientific working group; results delivered to the country control programmes

Output Indicator: Generate evidence on sustainable strategies for the elimination of VL in the Indian sub-continent

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: New evidence on priority challenges of VL elimination has been generated and disseminated:

- Micro stratification of Visceral Leishmaniasis (VL) Endemic Areas to Identify Hotspots and Disease Shifting Pattern in Bangladesh and Nepal

- Decision-making for indoor residual spraying in post-elimination phase of visceral leishmaniasis in Bangladesh and Nepal

Two research projects are ongoing:

- Active surveillance for visceral leishmaniasis in selected new foci districts, study on feasibility, acceptability and cost in Nepal

- Introduction of case detection with visceral leishmaniasis and Post Kala-azar Dermal Leishmaniasis in Non-programmatic Upazila Health Complexes in Bangladesh: Feasibility, acceptability and cost

Biennium: 2024-2025

EROutp-0345: Study reports/publications provided to WHO and countries (directly and/or via ESPEN)

Output Indicator: Data to support WHO guidelines and onchocerciasis endemic country registration and policies on moxidectin for onchocerciasis elimination

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: TDR is continuing to collaborate closely with Medicines Development for Global Health (MDGH) and the investigators in Ghana, DRC and Côte d'Ivoire of three studies needed (in addition to those which supported the US FDA approval of moxidectin for treatment of individuals at least 12 years old) by WHO and endemic countries to decide on inclusion of moxidectin in onchocerciasis elimination strategies. This includes ensuring WHO ERC continuing approvals.

The paediatric study to identify a moxidectin dose for 4-11 year old children for further evaluation was completed (NCT03962062, for protocol see: https://mox4oncho-multimox.net/resources). Preparation of the publication is ongoing.

The protocol of the study obtaining additional safety data, including in individuals without evidence of O. volvulus infection, was amended to include children 4-11 years old (MDGH-MOX-3002, (https://www.clinicaltrials.gov/study/NCT04311671, for protocol see: https://mox4oncho-multimox.net/resources). The study was completed in 2024. It included 5564 adults, 2293 adolescents (12-17 years old) and 187 children (4-11 years) in the DRC randomized 4:1 to moxidectin:ivermectin and 3240 adults, 890 adolescents and 840 children in Côte d'Ivoire randomized 4:1 to moxidectin:ivermectin with concomitant administration of 400 mg albendazole. The inclusion of co-administration of albendazole in a lymphatic filariasis (LF) co-endemic area could pave the way for a guideline covering both onchocerciasis and LF. WHO NTD staff had indicated their preference for such guideline at the time the additional studies were discussed with them. The statistical analysis plan has been completed with final analyses expected to be available in the first half of 2025. A 'shell publication' is being prepared already to ensure earliest possible availability for WHO systematic reviews for guideline development. The timing of the WHO guideline development will depend on whether WHO/NTD will consider the additional data from the paediatric study and the safety study sufficient to initiate the WHO guidelines process and whether the Guidelines Development Committee agrees with that assessment.

The third study (MDGH-MOX-3001, (https://www.clinicaltrials.gov/study/NCT0387s6262, for protocol see: https://mox4oncho-multimox.net/resources) will provide data on the effect of moxidectin and ivermectin after five biannual and 3 annual administrations. The protocol had to be amended to reduce the sample size from 1000 to around 320 because of a dearth of individuals with the required intensity of O. volvulus infection combined with budget limitations. Enrolment has been completed and the study is currently expected to be completed in the second half of 2026. The statistical analysis has been developed.

TDR is also continuing to collaborate with investigators to disseminate information about moxidectin. The following were published in 2024:

1. Turner HC, Kura K, Roth B, Kuesel AC, Kinrade S, Basáñez MG. An Updated Economic Assessment of Moxidectin Treatment Strategies for Onchocerciasis Elimination. Clin Infect Dis. 2024 Apr 25;78(Supplement_2):S138-S145. doi: 10.1093/cid/ciae054. PMID: 38662693; PMCID: PMC11045023.

2. Wafeu GS, Lepage TM, Campillo JT, Efon-Ekangouo A, Nana-Djeunga HC, Nzune-Toche N, Domche A, Sumo L, Njitchouang GR, Tsasse MAF, Bopda J, Balog YA, Niamsi-Emalio Y, Mbickmen-Tchana S, Talla GK, Kana YSN, Messina FDM, Pion SD, Kuesel AC, Kamgno J, Boussinesq M, Chesnais CB. (2024) Safety and Short-term Efficacy of a Single Dose of 2 mg Moxidectin in Loa loa-Infected Individuals: A Double-Blind, Randomized Ivermectin-Controlled Trial With Ascending Microfilarial Densities. Open Forum Infect Dis. 2024 Apr 25;11(7):ofae240. doi: 10.1093/ofid/ofae240. PMID: 38966851; PMCID: PMC11222972.

3. Kanza EM, Nyathirombo A, Larbelee JP, Opoku NO, Bakajika DK, Howard HM, Mambandu GL, Nigo MM, Wonyarossi DU, Ngave F, Kennedy KK, Kataliko K, Bolay KM, Attah SK, Olipoh G, Asare S, Mumbere M, Vaillant M, Halleux CM, Kuesel AC. (2024) Onchocerca volvulus microfilariae in the anterior chambers of the eye and ocular adverse events after a single dose of 8 mg moxidectin or 150 µg/kg ivermectin: results of a randomized double-blind Phase 3 trial in the Democratic Republic of the Congo, Ghana and Liberia. Parasit Vectors. 2024 Mar 15;17(1):137. doi: 10.1186/s13071-023-06087-3. PMID: 38491528; PMCID: PMC10943894.

Biennium: 2024-2025

EROutp-0344: Report to scientific working group; results delivered to the country control programmes and/or NTD programmes/advisory committees at regional and/or HQ level

Output Indicator: Improved basis for monitoring progress of preventive chemotherapy-based onchocerciasis elimination programmes towards elimination and for decisions to stop intervention

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: To support onchocerciasis programmes to monitor progress towards elimination of parasite transmission and decisions to stop interventions, this project is designed to provide tools to

a. Delineate parasite transmission zones (Note: The WHO Guidelines for stopping mass drug administration (MDA) and verifying elimination of human onchocerciasis are to be applied to transmission zones, but includes no criteria for delineating them. Objective criteria are currently not available. (https://apps.who.int/iris/handle/10665/204180).

b. Estimate the risk of recurrence through human and vector migration should the criteria to stop MDA be met in only one part of the transmission zone and estimate risk of recurrence after MDA was stopped and after elimination of O. volvulus transmission was verified.

c. Estimate the minimum number of reproductively active adult parasites. This tool would also allow to identify the origin of any resurgence after MDA was discontinued.

And to

d. Build capacity within endemic countries through training of technicians and PhD students from endemic countries (previously Cameroon and Ghana, now only Ghana) within the collaborating endemic country institution and in the laboratory of non-endemic country collaborators.

This element of ER 1.2.1 has been devolved to investigators who have leveraged the results of TDR funded work for funding from other sources. The last set of TSAs (one to Ghana, one to Australia) were issued in 1Q 2023 and a no-cost extension to 1Q 2025 was issued to maximize the outputs with the funding provided. This includes

(1) Capacity building: the Ghanaian PhD student can complete the analysis of data from samples she obtained during the initial time of working on her PhD in Ghana and which she anayzed during the subsequent (and ongoing) time in the laboratory of the Australian collaborators. She will also be trained on a new parasitological method.

(2) Finalization of an easy to use ("shiny") app developed in the Australian institution with input from the Ghanaian institution. This will allow NTD programmes to use the model developed in this project to estimate the risk of recurrence through human and vector migration should the WHO criteria to stop interventions be met in one area (and thus parasite transmission is presumed to have been interruption) but not in areas within vector and people movement distance where parasite transmission is known to be continuing.

(3) Publication of the model to estimate the risk of recurrence through human and vector migration expanded to incorporate the effect of parasites with different levels of response to ivermectin. Parasites with so-called 'sub-optimal' response were perceived at one point as potentially indicating emerging resistance to ivermectin. While this may not be the case given that the TDR funded Phase 3 study of moxidectin identified such parasites at different prevalences in different ivermectin-naïve areas, increasing prevalence and geographical distribution of such

parasites may impact progress towards elimination. Consequently, the ability to estimate such impact will be informative for control programmes (as well as for funders of elimination efforts).

(4) Completion of work including nodulectomies, assessment of the reproductive capacity of the macrofilariae and genetic analysis of the parasites which will contribute to the genome-based objective criteria for delineation of parasite transmission zones. This work had been approved for funding by the IMP SWG. However, the protocol was not finalized in time for WHO ERC approval and thus funding in the 2022-2023 biannium so that the investigators require funding from other sources.

In 2021, a special session was held at the Annual Conference of the 'Coalition for Operational Research on Neglected Tropical Diseases' (COR NTD) on this project. Presentations and discussions focussed on the need for and the risks of the absence of objective criteria for delineation of transmission zones and progress at that time.

Once the final data from this project are available, another special COR NTD session should be targeted as well as presentation of the results to the NTD STAG and the WHO NTD initiated 'Global Onchocerciasis Network for Elimination' to support dissemination of the results.

Publications of TDR funded work

Shrestha H, McCulloch K, Chisholm RH, Armoo SK, Veriegh F, Sirwani N, Crawford KE, Osei-Atweneboana MY, Grant WN, Hedtke SM. Synthesizing environmental, epidemiological and vector and parasite genetic data to assist decision making for disease elimination. Mol Ecol. 2024 Jun;33(11):e17357. doi: 10.1111/mec.17357. Epub 2024 Apr 29. PMID: 38683054.

Crawford KE, Hedtke SM, Doyle SR, Kuesel AC, Armoo S, Osei-Atweneboana MY, Grant WN. Genome-based tools for onchocerciasis elimination: utility of the mitochondrial genome for delineating Onchocerca volvulus transmission zones. Int J Parasitol. 2024 Mar;54(3-4):171-183. doi: 10.1016/j.ijpara.2023.11.002. Epub 2023 Nov 20. PMID: 37993016.

Publication with funding leveraged from TDR funded work.

Hedtke SM, Post RJ, Feleke SM, Gebretsadik FS, Boakye DA, Krueger A, Grant WN, Wilding CS. Cytotaxonomic characterization and estimation of migration patterns of onchocerciasis vectors (Simulium damnosum sensu lato) in northwestern Ethiopia based on RADSeq data. PLoS Negl Trop Dis. 2024 Jan 4;18(1):e0011868. doi: 10.1371/journal.pntd.0011868. PMID: 38175836; PMCID: PMC10793886.

ER Biennium Outcomes

Biennium: 2026-2027

EROutc-0137: Guidelines, policy decisions and or practice on diseases elimination informed by TDR outputs

Progress made towards outcome : Start of biennium, no 2026-27 progress relevant for report agains toutcome yet available.

Biennium: 2024-2025

EROutc-0093: Guidelines, policy decisions and or practice informed by TDR outputs

Progress made towards outcome : The following guidelines, policy decision and/ or practice were informed by TDR outputs: * Screening of VL patients for HIV in Bangaldesh (informed by the study on HIV sero prevalence in VL patients in Bangladesh) * Residual indoor spraying intervention for VL * Identification of district at risk for VL in Nepal and Bangladesh Evidence pending on the following: * capacity of response of health system in Erythrea, Sudan and S Sudan * performance of RDT to diagnosse VL in eastern Africa population (see also ER 1.2.6 for work on moxi and acceptability on the field)

ER Project Links

P25-01741: Surveillance of sand flies in the Karamoja subregion of Uganda	**PI Name :** Charles Drago Kato **Project Start Date :** 29/11/2025 **Project End Date :** 30/06/2026
P25-01736: Surveillance de la leishmaniose viscérale dans les établissements publics de santé des régions de Dakar et de Thiès au Sénégal	**PI Name :** Babacar Faye **Project Start Date :** 30/11/2025 **Project End Date :** 31/12/2025
P25-01672: Support to TDR implementation research programme for Visceral Leishmaniasis (VL) elimination in eastern Africa	**PI Name :** Alemseged Abdissa Lencho **Project Start Date :** 15/09/2025 **Project End Date :** 31/03/2026
P25-01644: Support to evaluation of rapid diagnostics for Visceral Leishmaniasis (VL) control and elimination: planning and preparatory phase for 2025 evaluation.	**PI Name :** Benjamin Collins **Project Start Date :** 16/07/2025 **Project End Date :** 31/03/2026
P24-01313: Active surveillance for visceral leishmaniasis in selected new foci districts in Nepal: feasibility, acceptability and cost	**PI Name :** Anand Ballabh Joshi **Project Start Date :** 01/06/2024 **Project End Date :** 31/12/2026
P24-01312: Introduction of case detection with visceral leishmaniasis and Post Kala-azar Dermal Leishmaniasis in Non-programmatic Upazila Health Complexes in Bangladesh: Feasibility, acceptability and cost	**PI Name :** Soumik Kha Sagar **Project Start Date :** 01/06/2024 **Project End Date :** 31/12/2026
P24-01303: Management of implementation research projects in the scope of research in support of visceral leishmaniasis elimination	**PI Name :** Magha Raj Banjara **Project Start Date :** 20/04/2020 **Project End Date :** 19/02/2025
P23-01098: Conducting TDR project activities specified in the MDGH-WHO Donor Agreement	**PI Name :** Annette Kuesel **Project Start Date :** 18/10/2023 **Project End Date :** 27/09/2025
P23-00990: Evaluation of rapid diagnostics for Visceral Leishmaniasis (VL) control and elimination: planning and preparatory phase	**PI Name :** Benjamin Collins **Project Start Date :** 01/07/2023 **Project End Date :** 21/12/2023
P23-00961: To be used for a new project	**PI Name :** **Project Start Date :** **Project End Date :**
P23-00951: Assessing programme capacities in visceral leishmaniasis-endemic countries in East Africa to implement WHO's treatment recommendations towards achieving universal health coverage and NTD roadmap targets	**PI Name :** Asrat Mekuria **Project Start Date :** 05/07/2023 **Project End Date :** 30/06/2026
P22-00865: Micro stratification of Visceral Leishmaniasis (VL) Endemic Areas to Identify Hotspots and Disease Shifting Pattern in Bangladesh	**PI Name :** Dr Shomik Maruf **Project Start Date :** 15/12/2022 **Project End Date :** 30/08/2023

P22-00851: Micro stratification of Visceral Leishmaniasis (VL) Endemic Areas to Identify Hotspots and Disease Shifting Pattern in Nepal

PI Name : Anand Ballabh Joshi
Project Start Date : 15/12/2022
Project End Date : 31/12/2023

P22-00763: Decision Making for Indoor Residual Spraying in Post Elimination Phase of Visceral Leishmaniasis in Nepal

PI Name : Anand Ballabh Joshi
Project Start Date : 19/12/2022
Project End Date : 18/12/2023

P22-00745: Support to research for Improved VL Surveillance, Case Detection and Vector Control in the scope of VL elimination Initiative in Bangladesh and Nepal

PI Name : Hajo Grundmann
Project Start Date : 15/09/2022
Project End Date : 14/09/2023

P22-00719: Decision Making for Indoor Residual Spraying in Post Elimination Phase of Visceral Leishmaniasis in Bangladesh

PI Name : Debashis Ghosh
Project Start Date : 22/12/2022
Project End Date : 21/12/2023

P22-00690: Open Access Publication: American Society of Tropical Medicine and Hygiene - American Journal of Tropical Medicine and Hygiene Article: Response to Visceral Leishmaniasis Cases through Active Case Detection and Vector Control i n Low Endemic Hilly Distric

PI Name :
Project Start Date : 21/06/2022
Project End Date : 24/06/2022

P21-00481: Population genetic tools for onchocerciasis control programmes to determine transmission zones: Utility of vector nuclear vs mitochondrial DNA and testing of different methods for single microfilariae analysis

PI Name : Shannon Hedtke
Project Start Date : 01/12/2021
Project End Date : 31/12/2025

P21-00397: Payment for Publication fees

PI Name :
Project Start Date : 25/08/2021
Project End Date : 27/08/2021

P21-00374: Review, compilation and publication of unpublished data and experience of the Onchocerciasis Control Programme in West Africa and peer-reviewed literature on the role of the vector in transmission of O. volvulus, vector-related considerations for criteria

PI Name : Daniel Boakye
Project Start Date : 23/08/2021
Project End Date : 22/08/2022

P21-00358: Assessment of the Impact of Implementation Research on the Visceral Leishmaniasis (VL) Elimina-tion Efforts in Bangladesh: the National Perspective

PI Name : Dinesh Mondal
Project Start Date : 08/07/2021
Project End Date : 30/11/2021

P21-00357: Assessment of the Impact of Implementation Research on the Visceral Leishmaniasis (VL) Elimination Efforts in Nepal: the National Perspective

PI Name : Anand Ballabh Joshi
Project Start Date : 08/07/2021
Project End Date : 30/11/2021

P21-00229: Determination of the sero-prevalence of HIV among VL patients in Bangladesh

PI Name : Faria Hossain
Project Start Date : 01/06/2022
Project End Date : 30/09/2023

P20-00145: Determination of Prevalence of Post Kala-azar Dermal Leishmaniasis (PKDL) and Assessment of

PI Name : Anand Ballabh Joshi
Project Start Date : 19/05/2021

Treatment Seeking Behaviour of PKDL Patients in Nepal	**Project End Date** : 18/05/2022
P20-00144: Follow up Assessment of Visceral Leishmaniasis (VL) Treated Patients and Assessment of Impact of COVID-19 in VL Control Services in Nepal	**PI Name :** Anand Ballabh Joshi **Project Start Date** : 19/05/2021 **Project End Date** : 31/12/2022
P20-00143: Epidemiological, Serological and Entomological Investigation of New Visceral Leishmaniasis (VL) Foci in Nepal	**PI Name :** Anand Ballabh Joshi **Project Start Date** : 26/05/2021 **Project End Date** : 31/12/2022
P20-00142: Determination of Prevalence of Post Kala-azar Dermal Leishmaniasis (PKDL) and Assessment of Treatment Seeking Behaviour of PKDL Patients in Bangladesh	**PI Name :** Debashis Ghosh **Project Start Date** : 10/05/2022 **Project End Date** : 31/12/2022
P20-00141: Follow up Assessment of Visceral Leishmaniasis (VL) Treated Patients and Assessment of Impact of COVID-19 in VL Control Services in Bangladesh	**PI Name :** Dr Shomik Maruf **Project Start Date** : 01/05/2021 **Project End Date** : 31/12/2022
P20-00140: Epidemiological, Serological and Entomological Investigation of New Visceral Leishmaniasis (VL) Foci in Bangladesh	**PI Name :** Debashis Ghosh **Project Start Date** : 03/05/2021 **Project End Date** : 02/05/2022
B80311: Review of HIV seroprevalence in VL patients in Bangladesh	**PI Name :** Faria Hossain **Project Start Date** : 25/11/2019 **Project End Date** : 30/06/2021
B80309: Technical Support for Studies on VL Diagnosis in Secondary Health Structures.	**PI Name :** Emily Adams **Project Start Date** : 26/11/2019 **Project End Date** : 31/03/2021
B80297: Population genetic simulations for tools for onchocerciasis control programmes to determine transmission zones: Part 2 Ghana Epidemiological and entomological data	**PI Name :** Kwadwo Kyereme Frempong **Project Start Date** : 13/11/2019 **Project End Date** : 21/02/2024
B80296: Population genetic simulations for tools for onchocerciasis control programmes to determine transmission zones: Part 1..	**PI Name :** Warwick Norman Grant **Project Start Date** : 13/11/2019 **Project End Date** : 30/07/2021
B80180: Organization of a TDR expert meeting on 'Research support for the post- Visceral Leishmaniasis (VL) elimination phase in	**PI Name :** Ursula Wittwer Backofen **Project Start Date** : 01/06/2019 **Project End Date** : 30/11/2019
B80149: Tools for onchocerciasis control programs to determine transmission zones and to monitor parasite response to ivermectin	**PI Name :** Warwick Norman Grant **Project Start Date** : 19/03/2019 **Project End Date** :
B80076: Research to Support Visceral Leishmaniasis Program in Indian Sub-Continent	**PI Name :** Debashis Ghosh **Project Start Date** : 01/04/2019 **Project End Date** : 31/12/2020
B80043: Research Support for the Consolidation and Maintenance Phase of the Visceral Leishmaniasis	**PI Name :** Anand B. Joshi **Project Start Date** : 08/02/2018

Elimination Program in Nepal	**Project End Date :** 30/04/2021
B70123: Embedding Diagnostics for VL into the Secondary Health Care System in Bangladesh	**PI Name :** Dinesh Mondal **Project Start Date :** 15/11/2017 **Project End Date :** 30/12/2019
B70122: Embedding Diagnostics and Surveillance of Visceral Leishmaniasis into non-specialised VL centres in the health care...	**PI Name :** Pradeep Das **Project Start Date :** 25/11/2017 **Project End Date :** 25/02/2019
B70048: Organization of a TDR-WHO expert meeting on 'Research support for the post- Visceral Leishmaniasis (VL) elimination....	**PI Name :** Ursula Wittwer Backofen **Project Start Date :** 01/05/2018 **Project End Date :** 30/11/2018
B40131: Study design & genetic analyses: Development of diagnostic genetic markers to detect sub optimal response to ivermectin	**PI Name :** Warwick Norman Grant **Project Start Date :** 17/12/2014 **Project End Date :** 30/04/2017
B40127: A population genetic model for the selection and transmission of ivermectin sub-optimal response genotypes	**PI Name :** Warwick Norman Grant **Project Start Date :** 17/12/2014 **Project End Date :** 30/04/2017
B40126: Simulating scenarios for development & spread of anthelminthic resistance as a consequence of large scale mass drug admin	**PI Name :** S. J. De Vlas **Project Start Date :** 21/01/2015 **Project End Date :** 30/04/2017
B40124: Developing molecular tools to define Onchocerca volvulus transmission zones & estimate transmission risks between zones	**PI Name :** Mike Osei-Atweneboana **Project Start Date :** 17/12/2014 **Project End Date :** 30/04/2017
B40123: Research for genetic markers of O. volvulus resp. to ivermectin & development of an oncho contol programme surveillance	**PI Name :** Samuel Wanji **Project Start Date :** 01/09/2014 **Project End Date :** 30/04/2017
B40122: Development of diagnostic genetic markers to detect sub-optimal response to ivermectin treatment.	**PI Name :** Mike Osei-Atweneboana **Project Start Date :** 16/01/2015 **Project End Date :** 30/09/2017
:	**PI Name :** **Project Start Date :** **Project End Date :**

ER Country Links

WHO Region :	AFRO	**Country:**	Ghana	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Côte d'Ivoire	**World Bank Income Group :**	Lower middle income

WHO Region :	AFRO	**Country:**	Uganda	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	South Sudan	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Eritrea	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Ethiopia	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Kenya	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Senegal	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Congo, Dem. Rep.	**World Bank Income Group :**	Low income
WHO Region :	EMRO	**Country:**	Sudan	**World Bank Income Group :**	Low income
WHO Region :	SEARO	**Country:**	Bangladesh	**World Bank Income Group :**	Lower middle income
WHO Region :	SEARO	**Country:**	Nepal	**World Bank Income Group :**	Lower middle income
WHO Region :	WPRO	**Country:**	Australia	**World Bank Income Group :**	High income

Expected Result: 1.2.6

Title: Optimized approaches for effective delivery and impact assessment of public health interventions

Strategic Work Area: Research for implementation
Workstream: Research for implementation

ER type:	Evolved	**Funding type:**	UD and DF
Start date:	01/01/2015	**End date:**	31/12/2027
ER status:	On Track	**Comment:**	Good progress
WHO region:	Global		
Partners:	Control programmes and research institutions in target countries - WHO/Global TB, WHO NTD and WHO Global Malaria Programmes, WHO regional offices, GFTAM, USAID, PMI, MMV, LSHTM, ITM, The Union and Damien Foundation		
Diseases:	COVID-19;Malaria;Neglected Tropical Diseases;Tuberculosis;Control and elimination of diseases of poverty;Resistance to treatment and control agents		

Review mechanism: Scientific working group + other ad hoc or collaboration-based review systems as appropriate

ER manager: Corinne Simone Collette MERLE
Team: Corinne Merle, Abdul Masoudi, Vanessa Veronese, Emmanuelle Papot, Ekua Johnson
Number of people working on projects: 500

FENSA clearance obtained for all Non-State Actors? Yes
Justification for no FENSA clearance: Most of the partners are governmental institutions; FENSA clearance obtained when needed.

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes
Roles complimentary:	Yes
Coordination transparent:	Yes
Visibility:	Yes

Objectives and results chain

Approach to ensure uptake: Involvement of different WHO headquarters, regional and country departments, key stakeholders such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, NGOs and control programmes; capacity built at country level.

Up-take/Use Indicator: Evidence taken into consideration in treatment and normative guidelines

Gender and geographic equity: For all activities, we try to ensure that men and women researchers are, as far as we can, equally represented.

Concerning the geographic equity, some activities focused initially in West and Central Africa (see rationale) for the WARN-TB and CARN-TB activities- this experience will be expended to East and Southern Africa. Other activities for this ER are not restricted to geographic area allowing us to work with all the 6 WHO regions.

Publication plan: Peer review publications, presentation at international congress, dissemination in-country including policy brief

In 2025:

Mahler B, Stoichiță A, Băiceanu D, Panciu TC, Dendrino D, Mihai M, Bobocea R, Ibraim E, Bălteanu M, Popescu O, Burecu MO, Moșteanu IM, Veronese V, Matache R, Munteanu I, Popa C, Dragomir JA. Artificial intelligence: a useful tool in active tuberculosis screening among vulnerable groups in Romania - advantages and limitations. Front Public Health. 2025 Feb 7;13:1433450. doi: 10.3389/fpubh.2025.1433450. PMID: 39991692; PMCID: PMC11842365.

- Sinha A, Klebe R, Rekart ML, Alvarez JL, Skrahina A, Yatskevich N, Solodovnikova V, Viatushka D, Parpieva N, Safaev K, Liverko I, Tigay Z, Moe S, Khristusev A, Allamuratova S, Mirzabaev S, Achilov M, Samieva N, Lachenal N, Merle CS, Sall FB, Restrepo CG, Tan C, Sitali N, Saunders MJ. The Effectiveness and Safety of Bedaquiline, Pretomanid, and Linezolid (BPaL)-Based Regimens for Rifampicin-Resistant Tuberculosis in Non-Trial Settings-A Prospective Cohort Study in Belarus and Uzbekistan. Clin Infect Dis. 2025 Feb 18:ciaf035. doi:10.1093/cid/ciaf035. Epub ahead of print. PMID: 39964841.

- Rodríguez M, Bustos YC, Encarnación M, Muñoz E, De Los Santos S, Sánchez I, Portorreal L, Sombie SB, Sall FB, Merle CS, Perez F. Evaluation of a modified short all oral treatment regimen for rifampicin-multidrug resistant tuberculosis in Dominican Republic. BMC Infect Dis. 2025 Feb 9;25(1):196. doi: 10.1186/s12879-024-10417-w. PMID: 39924538; PMCID: PMC11808990.

- D'Ottavi M, Godfrey-Faussett P, Merle CS, Sofonea MT, Laureillard D, Vickerman P, Molès JP, Altice FL, Van de Perre P, Stone J, Nagot N. Tuberculosis and people who use drugs: why focus on this overlooked population is important and why adapted interventions are necessary. Lancet Glob Health. 2025 Jan 22:S2214-109X(24)00481-9. doi: 10.1016/S2214-109X(24)00481-9. Epub ahead of print. PMID: 39862874.

- Khan N, Khan MA, Muzaffar N, Ismail A, Ghafoor A, Campbell JR, Le Coroller G, Nisa ZU, Merle CS, Khan MA. Non-inferiority stepped wedge cluster randomized controlled trial on all-oral shorter regimens for rifampicin resistant/multidrug-resistant TB in Pakistan - a study protocol.

Wachinou AP, Bah B, Ngom FN, Soumah M, Gossa S, Mbaye I, Sarr M, Ahouada C, Segoun S, Cisse M, Bah Sow O, Diallo BD, Zannou MD, Affolabi D, Merle C. Tuberculosis prevalence and associated factors among persons infected with human immunodeficiency virus in three West African countries -(Benin, Guinea, Senegal). Multidiscip Respir Med. 2025 May 9;20(1):1014.

Iem V, Suthepmany S, Inthavong V, Sisouvanh A, Choumlivong K, Oh KH, du Cros P, Sall FB, Merle CS, Sebert J, Inthavong D. All-Oral Shorter Treatment Regimens for Multidrug- and Rifampicin-Resistant Tuberculosis Evaluating Their Effectiveness, Safety, and Impact on the Quality of Life of Patients in Lao PDR. Trop Med Int Health. 2025 Sep 25.

Massou F, Diarra B, Ba Diallo A, et al. Multicenter field evaluation of Xpert MTB/XDR in Sub-Saharan Africa. ERJ Open Res 2025; in press (https://doi.org/10.1183/23120541.00427-2025).

In 2024:

Dogo FM, Ate S, Agossou K, Menon S, Fiogbé AA, Akpadja K, Adjoh SK, Veronese V, Merle CS, Koura KG. Decentralising DOT for drug-susceptible TB from the health facilities to the community level in Togo. Int J Tuberc Lung Dis. 2024 Apr 1;28(4):195-201. doi: 10.5588/ijtld.23.0427. PMID: 38563340.

Dogo FM, Ate S, Agossou K, Menon S, Fiogbé AA, Akpadja K, Adjoh SK, Veronese V, Merle CS, Koura KG. Decentralising DOT for drug-susceptible TB from the health facilities to the community level in Togo. Int J Tuberc Lung Dis. 2024 Apr 1;28(4):195-201. doi: 10.5588/ijtld.23.0427. PMID: 38563340.

Dogo FM, Ate S, Agossou K, Menon S, Fiogbé AA, Akpadja K, Adjoh SK, Veronese V, Merle CS, Koura KG. Decentralising DOT for drug-susceptible TB from the health facilities to the community level in Togo. Int J Tuberc Lung Dis. 2024 Apr 1;28(4):195-201. doi: 10.5588/ijtld.23.0427. PMID: 38563340

- Wachinou AP, Fotso P, Loko H, Segoun S, Esse M, Houessinon C, Veronese V, Agodokpessi G, Merle C, Affolabi D. Mapping of Interventions of Social Protection for Tuberculosis Patients in Africa: A Scoping Review Protocol. West Afr J Med. 2024 Mar 29;41(3):348-353. PMID: 38788254.

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Up-take/use indicator target date: 31/12/2025

Sustainable Development Goals

Good Health and Well-being;Gender Equality;Reduced Inequality;Partnerships to achieve the Goal

Concept and approach

Rationale:

Operational/Implementation research (OR/IR) embedded within country disease control programme activities aims to improve the effective delivery of health interventions. IR is a key driver for:

1. assessing the quality and effectiveness of a disease control programme intervention;
2. understanding the barriers to effectiveness;

3. developing new strategies to improve effectiveness and cost-effectiveness; and
4. piloting and implementing successful strategies at scale.

TDR activities are conducted at national, regional, and global levels and are driven by WHO disease control programme demands (primarily the WHO Programmes and departments for global TB, neglected tropical diseases, NTD, Malaria and Pharmacovigilance and/or WHO regional offices), as well as national disease control programme priorities. Activities under this ER combine financial and technical support for conducting IR, translating research into national policy and/or practices, and strengthening capacity for conducting IR among disease control programme staff. The ultimate goal of this ER is to strengthen national capacity to build sustainable mechanisms and processes for evidence-informed decision-making to improve the delivery and effectiveness of public health interventions.

The activities conducted under this ER can be categorized as follows:

1. tuberculosis-related activities
2. malaria-related activities
3. NTD activities
4. drugs/vaccines safety monitoring, and pharmacovigilance activities
5. digital health activities

Design and methodology:

1. Regional approach: establishment of disease control programme networks as a platform for i) the conduct of regional activties/workshops which are based on the research priorities and capacity building needs of partners, and ii) sharing of innovative solutions and challenges that can enhance national responsese to infectious diseases (in collaboration with relevant WHO programmes, in particular WHO/GTB)

2. Training: Activities which address identified training needs through: i) a regional training programme; and ii) a "learning by doing" approach with technical support and mentoring for the development and conduct of pilot IR projects that generate data for the implementation and scale-up of new public health interventions;

3. Technical and financial support for scaling-up public health interventions and evaluting and documenting the effectiveness, feasibility, acceptability and when appropriate, cost of the innovative strategy through IR.

4. Development of research packages/toolkits to 'democratise' the scientific process and enable users to build skills and self-sufficiency in IR, such as the ShORRT research package, the IR4DTB toolkit, the TB cost toolkit, the TDA4Child. These tools also facilitate the development of country-led research protocols and development of data collection tools for the conduct of operational/implementation research projects

5. Collaborative approach with involving WHO departments across the 3 levels, key funders for infectious diseases and key national and international NGOs/researchers.

Approach to ensure quality:

- Careful interactive development of the workplan of the full project and risk assessment - Careful selection of key partners - Close collaboration with National Disease control programmes and close monitoring of progress

ER Objectives

ERObj-0012 : 1. Build country programme capacity to develop research questions and generate data to inform effective implementation of their policies

ERObj-0013 : 2. To support national programmes with evidence for the selection and effective implementation of strategies to control diseases through either case- or population-based approaches

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Biennium Budget

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 600 000	USD 1 050 000
Designated funds	USD 1 500 000	USD 1 700 000
Total	USD 2 100 000	USD 2 750 000

Planned Budget

Undesignated funds	USD 650 000
Designated funds	USD 1 400 000
Total	USD 2 050 000

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 465 000	USD 1 000 000
Designated funds	USD 1 500 000	USD 1 700 000
Total	USD 1 965 000	USD 2 700 000

Planned Budget

Undesignated funds	USD 375 000
Designated funds	USD 1 500 000
Total	USD 1 875 000

ER Biennium Risks

Biennium: 2024-2025

ERRisk - 0283: Inability of some control programmes to define research priorities and capacity building needs

Actions To Mitigate Risk: Shared experience and expertise within the regional network and external technical support provided for the weakest control programmes

Mitigation Status: On Track

Biennium: 2024-2025

ERRisk - 0299: Insufficient engagement of national control programmes

Actions To Mitigate Risk: Adequate communication strategy to maintain interaction of all partners within the network

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0334: Insufficient engagement of national control programmes

Actions To Mitigate Risk: Adequate communication strategy to maintain interaction of all partners within the network

Mitigation Status: Planning phase

Biennium: 2026-2027

ERRisk - 0335: Inability of some control programmes to define research priorities and capacity building needs

Actions To Mitigate Risk: Shared experience and expertise within the regional network and external technical support provided for the weakest control programmes

Mitigation Status: Planning phase

Biennium: 2024-2025

ERRisk - 0356: Inability to deliver on DF projects if there is freeze of staff and consultants

Actions To Mitigate Risk: Negotiation with senior management to obtain autorization to hire consultants on DF when budget is allocated for consultants on the proposal and consultant is needed for project delivery.

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2024-2025

EROutp-0374: Establishment of the East and Southern Africa network with governance and terms of reference in place and at least 50% of the countries who defined their TB control gaps and developed a national TB research agenda. -

Output Indicator: Strengthened regional networks of National Tuberculosis Programmes in West, Central, East and Southern Africa capable of identifying research priorities

Output Target Date: 31/12/2026

Output Progress Status:

Output Progress Description: - For WARN/CARN, a series of webinars were held on TB related topics, and increased involvement in various IR projects

- SEARN TB network - now has 22 NTP members, has held 2 webinars in 2024 and has an operational governance structure in place

Biennium: 2024-2025

EROutp-0375: At least 3 countries should implement strategies to optimise effectiveness of RTS,S with more robust study designs to measure the impact of these strategies if extra funding is provided

Output Indicator: Approaches to optimized the effectiveness of malaria vaccine in countries with high seasonality developed

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: Development of a research package for facilitating the conduct of studies/surveys to measure the effectiveness of malaria vaccine, the coverage and understanding the barriers for optimal delivery strategy - Research package available in French and English for the coverage survey and qualitative component

Biennium: 2024-2025

EROutp-0393: OR/IR projects results of at least 15 NTPs are disseminated via oral or written study reports/scientific publications. With additional funding the number of research projects can be increased to 20.

Output Indicator: Strengthened National TB programmes capacities for conducting OR/IR to generate the evidence-base for improving TB control

Output Target Date: 31/12/2026

Output Progress Status: On Track

Output Progress Description: Across West and Central, and Southern and East Africa:

- 11 countries are currently conducting IR on digital technologies for TB

- 6 countries are conducting IR related to social protection for TB

- 3 are conducting IR on the evaluation of other digital appsfor public health (Skin NTP app and MedSafety App)

- 4 countries have implemented the TDA4Child toolkit and research results are about to be published

- 7 countries have implemented ShoRRT and they are all at a finalisation stage with written dissemination plans

Biennium: 2026-2027

EROutp-0416: Establishment of the East and Southern Africa network with governance and terms of reference in place and at least 50% of the countries who defined their TB control gaps and developed a national TB research agenda. -

Output Indicator: Strengthened regional networks of National Tuberculosis Programmes in West, Central, East and Southern Africa capable of identifying research priorities

Output Target Date: 31/12/2026

Output Progress Status: On Track

Output Progress Description:

Biennium: 2026-2027

EROutp-0415: At least 3 countries should implement strategies to optimise effectiveness of RTS,S with more robust study designs to measure the impact of these strategies if extra funding is provided

Output Indicator: Approaches to optimized the effectiveness of malaria vaccine in countries with high seasonality developed

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description:

Biennium: 2026-2027

EROutp-0417: OR/IR projects results of at least 15 NTPs are disseminated via oral or written study reports/scientific publications. With additional funding the number of research projects can be increased to 20.

Output Indicator: Local implementation research evidence generated by National Control Programmes to improve TB control in Africa

Output Target Date: 31/12/2026

Output Progress Status: On Track

Output Progress Description:

Biennium: 2026-2027

EROutp-0418: Evidence generated. At least three models of paediatric praziquantel delivery should have been piloted to inform national policies (cost-benefit studies and investment cases will also be conducted for US$ 50 million scenario)

Output Indicator: Generate evidence to improve access to new health technocalogies for neglected tropical diseases and improve control neglected tropical diseases

Output Target Date: 31/12/2027

Output Progress Status:

Output Progress Description:

Biennium: 2024-2025

EROutp-0466: Evidence generated. At least three models of paediatric praziquantel delivery should have been piloted to inform national policies (cost-benefit studies and investment cases will also be conducted for US$ 50 million scenario)

Output Indicator: Generate evidence to improve access to new health technocalogies for neglected tropical diseases and improve control neglected tropical diseases

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: Good progress of the Access and Delivery Partnership project, supporting introduction of arpraziquantel, moxidectin and malaria vaccine in burden countries.

arPZQ will be launched in Tanzania in November 2025. Though the OPT-MVAC project, TDR is supporting 14 countries in the introduction of malaria vaccine

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ER Biennium Outcomes

Biennium: 2024-2025

EROutc-0110: Guidelines and policy decisions informed by TDR outputs

Progress made towards outcome :

Biennium: 2024-2025

EROutc-0125: The delivery and impact assessment of public health interventions for TB are optimized through IR

Progress made towards outcome : The Regional network of National TB Programmes in Southern and Eastern Africa (SEARN-TB) continues to be supported by TDR, led by the Armaeur Hansen Research Institute (AHRI) as the network secretariat. The first annual meeting of the SEARN TB network was held in Addis Ababa in early 2025 with XX of the member NTPs in attendance... A webinar was also organised on preparing

conference abstracts to faciliate submissions to the annual World TB conference. SEARN TB members have been supported through the various IR initiatives described below. The West and Central African Regional Network for TB Control (WARN/CARN TB) remains operational, gaining more autonomy and financial support from external sources, such as the Union for Lung Health. A five-year strategic plan was created to facilitate fundraising. The 10th anniversary of WARN/CARN will be celebrated at the end of 2025 and a multi-country project is underway to demonstrate the network's impact on TB control over the past ten years. Ongoing support has been provided to six country teams across the TB networks evaluting various social protection programmes for people affected by TB. Financial and technical support has been provided to the NTP of Tanzania who were selected as the pilot country for the new social protection toolkit; this group is currently evaluting the impact of cash transfer schemes among DR-TB patients usign the generic protocols developed by TDR. Ongoing activities related to TB and digital technology are reported below. The ShoRRT project —a generic research package for evaluating effectiveness, safety, and impact on quality of life—is nearing completion, with 27 countries having used it. All participating countries have analyzed their study results and applied them to inform national TB strategies. Four countries (Dominican Republic, Lao PDR, Viet Nam, and Uzbekistan) have already published their findings, while Nigeria has finalized its results and submitted them for publication. The remaining countries are in the process of drafting scientific manuscripts, expected to be submitted by the end of 2025 or early 2026. Pooled analyses are currently underway, and several countries have requested continued access to the ShoRRT database to evaluate the programmatic use of the BPaL/BPaLM regimen. Funding is being sought to support these efforts. The TDA4Child initiative - an operational research package to evaluate the performance, feasibility, acceptability and impact of TDAs for pulmonary TB in children under 10 years old.- is nearing completion. With technical support from TDR, national TB programmes in Brazil, Burkina Faso, the Democratic Republic of the Congo, Nigeria, and Uganda have implemented the package. Preliminary results were presented at the Union World Conference in Bali (November 2024), and final results, including long-term impact assessments, will be shared at the WHO Childhood TB Workshop in November 2025. Findings are expected to be submitted for publication by the end of the year and will inform the revision of the WHO Global TB Programme handbook in 2026. Further work is underway to facilitate the use of these TDAs through digital tools (see later). Additionally, the 4FourChild initiative—based on the same generic model—is under development. This new research package will support the operationalization of WHO GTB guidelines for shortening TB treatment to four months in children with non-severe TB.

Biennium: 2024-2025

EROutc-0126: The delivery and impact assessment of public health interventions for malaria are optimized through IR

Progress made towards outcome : TDR in collaboration with WHO immunisation programme and multiple international experts led the development of a research package for facilitating the conduct of malaria vaccine coverage survey and understanding the barriers for optimal delivery strategy. This research package is finalised and available in French and English. It is being used as part of the OPT-MVAC project mentioned below. Since Jannuary 2025, TDR is involved in an EDCTP funded project, dubed as OPT-MVAC i which aims to optimize the delivery and uptake of malaria vaccines in countries with areas of highly seasonal transmission over five years in partnership with LIH, University of Thies, University Cheik Anta Diop in Dakar, LSHTM in UK, Rabat WHO collaborating centre, WHO and MMV. The project aims to support national immunisation and malaria programmes in 14 countries in West and Central Africa with highly seasonal malaria, to optimise delivery and uptake of malaria vaccines, and to exploit the opportunities of malaria vaccine introduction to strengthen delivery of other vaccines. Capacity buidling activities for conducting malaria vaccine coverage surveys were conducted and seven countries are currently supported for conducting this survey end of 2025 or Q1 2026. In addition, TDR recieved funding from GAVI to evaluate an intensification seasonal strategy for improving malaria vaccine coverage in countries where seasonal Malaria Chemoprevention is implemented. This mixed-methods study dubbed as SIRI is conducted in Benin and Guinea in collaboration with the national malaria and immunisation programmes of both countries and technical support of the LSHTM,the university of Thies and TDR. Results should be made available early 2026.

Biennium: 2024-2025

EROutc-0127: The delivery and impact assessment of public health interventions for NTDs are optimized through IR

Progress made towards outcome : With the introduction of the new orodispersible paediatric formulation of praziquantel (arPZQ), countries endemic for schistosomiasis now have an improved option to treat children aged 24 to 59 months. In high-endemicity areas, WHO recommends mass drug administration (MDA) starting at 2 years of age. Policymakers are currently evaluating the suitability of a 'Test and Treat' approach versus MDA or MDA-like models, and how best to integrate these into existing health systems or ongoing MDA campaigns. TDR is supporting this process in the United Republic of Tanzania, Senegal, and Ghana through the Access Delivery Partnership (ADP) project. Tanzania has conducted a

community engagement strategy and will launch arPZQ in November 2025, alongside an evaluation of two delivery models: Test & Treat versus MDA in preschool children, integrated with school-aged children MDA. Senegal is planning to evaluate arPZQ delivery in October, comparing integration with Seasonal Malaria Chemoprevention (SMC) versus community-based activities (PECADOM). Effectiveness will be assessed based on coverage achieved by each delivery model, complemented by a qualitative component to identify implementation barriers. TDR is engaged in an implementation research project with the University of Health and Allied Sciences (UHAS) and the national NTD programme for the evaluation of the acceptability of MDA of moxidectin for onchocerciasis following the pilot community-based MDA in Twifo Ati Morkwa, Ghana. The IR study covers acceptability, feasibility, equity and adverse event perceptions and experiences, with a comparison to the standard treatment of ivermectin. The findings will inform both the WHO Control of Neglected Tropical Diseases (WHO-NTD) Department and the WHO Guideline development group on the use of moxidectin in onchocerciasis.

Biennium: 2024-2025

EROutc-0128: The delivery and impact assessment of public health interventions for drug and vaccine safety and pharmacovigilance are optimized through IR

Progress made towards outcome : 1. Support to Burkina Faso and Malawi for the MedSafety app, USSD coding system is ongoing

Biennium: 2024-2025

EROutc-0129: The delivery and impact assessment of public health interventions using digital health optimized through IR

Progress made towards outcome : 1. Following the IR4DTB workshop in the WHO AFRO region targeting NTP staff in May 2023, 11 country proposals were selected to receive financial and technical support to conduct IR to test, evaluate and/or scale up new digital technologies within the context of a country's national response to TB throughout 2024. Studies are nearing completion with publication of some papers expected by the end of 2024. The six countries in the WHO EURO region, selected after the 2022 IR4DTB workshop, have finalised their studies with draft or published manuscripts available for all. Through support from the Mayo Clinic, the IR4DTB site was translated into Spanish to extend its reach into Latin and South America.

Biennium: 2026-2027

EROutc-0138: Guidelines, policy decisions and / or practice informed by TDR outputs.

Progress made towards outcome :

ER Project Links

P25-01740: Supporting the communication and dissemination of research findings of the WARN-TB & CARN-TB regional network	**PI Name :** Dissou Affolabi **Project Start Date :** 01/12/2025 **Project End Date :** 30/12/2025
P25-01739: Supporting the communication and dissemination of research findings of the SEARN TB regional network	**PI Name :** Alemseged Abdissa Lencho **Project Start Date :** 01/12/2025 **Project End Date :** 30/12/2025

P25-01725: Support the finalisation of TDR digital tool to support TB diagnosis and treatment among children and young people
PI Name : Ally Salim Jr
Project Start Date : 15/11/2025
Project End Date : 30/12/2025

P25-01702: Long-term impact of two operational research projects for TB control conducted by the national TB programme of Nigeria
PI Name : Ochuko Urhioke
Project Start Date : 21/10/2025
Project End Date : 31/12/2025

P25-01695: Support for research activities of the WARN/CARN-TB
PI Name : Dissou Affolabi
Project Start Date : 15/10/2025
Project End Date : 31/12/2025

P25-01685: Supporting the ongoing functioning of SEARN TB secreatariat for regional TB response in Southern and East Africa
PI Name : Alemseged Abdissa Lencho
Project Start Date : 30/09/2025
Project End Date : 30/12/2025

P25-01684: Supporting the ongoing functioning of WARN/CARN TB secreatariat for regional TB response in West and Central Africa
PI Name : Dissou Affolabi
Project Start Date : 30/09/2025
Project End Date : 30/12/2025

P25-01683: Preparation for the implementation of a new study protocol and digital tool to support the introduction of new WHO guidelines on TB diagnosis and shorter treatment regimens from non-severe TB among children and adolescents in Nigeria.
PI Name : Chukwuma Anyaike
Project Start Date : 30/09/2025
Project End Date : 30/12/2025

P25-01682: Preparation for the implementation of a new study protocol and digital tool to support the introduction of new WHO guidelines on TB diagnosis and shorter treatment regimens from non-severe TB among children and adolescents in DRC.
PI Name : Jean Pierre Malemba
Project Start Date : 30/09/2025
Project End Date : 30/12/2025

P25-01678: HQ/SCI/TDR/IMP - 2304586 Implementation research on diseases of poverty in LMIC
PI Name : Emmanuelle Papot
Project Start Date : 01/10/2025
Project End Date : 24/12/2025

P25-01671: Impact assessment of the RAFAScreen project
PI Name : Dissou Affolabi
Project Start Date : 11/09/2025
Project End Date : 31/12/2025

P25-01670: Impact assessment of the National Strategy for systematic Tuberculosis screening and Preventive Treatment among people living with HIV in Ghana
PI Name : Bernard Ziem
Project Start Date : 11/09/2025
Project End Date : 31/12/2025

P25-01652: Measurement of the long-term impact of use of Treatment-Decision Algorithms through implementation research for Tuberculosis screening and treatment in DR. Congo.
PI Name : Jean Pierre Malemba
Project Start Date : 04/08/2025
Project End Date : 30/11/2025

P25-01648: Mentoring of young researchers for the conduct of a TB priority project in Benin and participation to the WARN/CARN-TB operational research activities
PI Name : Wilfried Bekou
Project Start Date : 28/07/2025
Project End Date : 31/12/2025

P25-01647: Mentoring of young researchers for the conduct of a TB priority project in Burkina Faso and
PI Name : Adama Diallo
Project Start Date : 28/07/2025

participation to the WARN/CARN-TB operational research activities

Project End Date : 31/12/2025

P25-01646: Mentoring of young researchers for the conduct of a TB priority project in Guinea and participation to the WARN/CARN-TB operational research activities

PI Name : Aboubacar Sidiki MAGASSOUBA
Project Start Date : 28/07/2025
Project End Date :

P25-01632: Support for conducting an evaluation of the impact of OR activities of the WARN/CARN-TB

PI Name : Wilfried Bekou
Project Start Date : 04/07/2025
Project End Date : 31/12/2025

P25-01630: Support to the national malaria and immunization programmes of Guinea for the conduct of evaluation studies on seasonal intensification of malaria vaccination.

PI Name : Bienvenu Camara
Project Start Date : 26/07/2025
Project End Date : 31/12/2025

P25-01624: Support to the WARN/CARN-TB for organizing the celebration of the 10th anniversary of the network during the annual meetings of the TB-Lab and WARN/CARN-TB networks.

PI Name : Dissou Affolabi
Project Start Date : 27/06/2025
Project End Date : 31/12/2025

P25-01619: Rectal Artesunate Suppository (RAS) implementation in Nigeria

PI Name : Nnenna Ogbulafor
Project Start Date : 30/06/2025
Project End Date : 31/12/2025

P25-01618: Support to national disease control programmes for the training on and conduct of qualitative studies

PI Name : Nadia Fanou Fogny
Project Start Date : 20/06/2025
Project End Date : 31/12/2025

P25-01611: Design and development of the French version of the TDR social protection toolkit for TB

PI Name : Thomas Scalway
Project Start Date : 06/06/2025
Project End Date : 15/10/2025

P25-01610: Support for the conduct of a TB priority project in Burkina Faso

PI Name : Adjima Combary
Project Start Date : 27/05/2025
Project End Date : 31/12/2025

P25-01609: Support for the conduct of a TB priority project in Guinea

PI Name : Adama Marie Bangoura
Project Start Date : 27/05/2025
Project End Date : 31/12/2025

P25-01604: Monitoring and promotion of malaria and TB projects supported by TDR

PI Name : Nolwenn Conan
Project Start Date : 01/06/2025
Project End Date : 30/09/2025

P25-01602: Support for the conduct of a TB priority project in Madagascar

PI Name : Joelle Razafimahefa
Project Start Date : 26/05/2025
Project End Date : 31/12/2025

P25-01599: Publication of the ShoRRT research protocol of Pakistan.

PI Name : Maggie Zhang
Project Start Date : 22/05/2025
Project End Date : 30/06/2025

P25-01592: Support for evaluating the impact of social protection schemes among people affected by TB in

PI Name : Willy Mbwala
Project Start Date : 12/05/2025

Tanzania.	**Project End Date :** 31/12/2025
P25-01584: Support for the conduct of a TB priority project in Benin	**PI Name :** Dissou Affolabi **Project Start Date :** 28/04/2025 **Project End Date :** 31/12/2025
P25-01583: Support for the conduct of a TB priority project in Cameroon	**PI Name :** Collins TITAHONG NOSOH **Project Start Date :** 28/04/2025 **Project End Date :** 31/12/2025
P25-01580: Support for the monitoring and promotion of malaria and TB projects supported by TDR	**PI Name :** Nolwenn Conan **Project Start Date :** 02/05/2025 **Project End Date :** 31/05/2025
P25-01571: Development of research material for evaluating malaria vaccine delivery in different context	**PI Name :** Nolwenn Conan **Project Start Date :** 27/03/2025 **Project End Date :** 01/05/2025
P25-01567: Support for preparatory work for the Rectal Artesunate Suppository (RAS) implementation in Nigeria	**PI Name :** Nnenna Ogbulafor **Project Start Date :** 24/03/2025 **Project End Date :** 31/12/2025
P25-01538: Finalisation of the TDA4Child project in DR. Congo.	**PI Name :** Jean Pierre Malemba **Project Start Date :** 18/03/2025 **Project End Date :** 31/03/2025
P25-01524: Coordination of WARN-TB and CARN-TB activities	**PI Name :** Dissou Affolabi **Project Start Date :** 17/02/2025 **Project End Date :** 31/12/2025
P25-01522: Supporting the SEARN TB secreatariat for regional TB response in Southern and East Africa in 2025.	**PI Name :** Alemseged Abdissa Lencho **Project Start Date :** 10/02/2025 **Project End Date :** 31/12/2025
P25-01519: Conducting a scoping review to inform the creation of a new area of work on digital Technologies for TDR.	**PI Name :** LAVINIA DI RUFFANO **Project Start Date :** 05/02/2025 **Project End Date :** 01/09/2025
P25-01515: Publication of the results of the ShoRRT study in Dominican Republic.	**PI Name :** Maggie Zhang **Project Start Date :** 22/01/2025 **Project End Date :** 10/02/2025
P25-01513: Coordination and organization of the first annual meeting of the SEARN-TB network	**PI Name :** Alemseged Abdissa Lencho **Project Start Date :** 20/01/2025 **Project End Date :** 10/03/2025
P24-01505: Support for dissemination meeting of the results of operational research study conducted by the National TB Programme of Nigeria.	**PI Name :** Chukwuma Anyaike **Project Start Date :** 23/12/2024 **Project End Date :** 31/01/2026
P24-01461: Coordination of FR/EN translation activities for a regional webinar of National TB Programmes	**PI Name :** Dissou Affolabi **Project Start Date :** 13/12/2024 **Project End Date :** 30/12/2024
P24-01460: To provide support for the development of data collection systems of NTD and TB research	**PI Name :** Amadou Seck **Project Start Date :** 05/12/2024

packages.	**Project End Date :** 28/02/2025
P24-01455: Organization of the 2024 WARN-TB & CARN-TB meeting	**PI Name :** Dissou Affolabi **Project Start Date :** 02/12/2024 **Project End Date :** 31/01/2025
P24-01385: Support for data cleaning, statistical analysis and knowledge sharing activities of the National TB programme of DRC regarding the TDA4Child project	**PI Name :** Michel KASWA KAYOMO **Project Start Date :** 19/09/2024 **Project End Date :** 31/12/2024
P24-01384: Nigeria – Support for data cleaning, statistical analysis and knowledge sharing activities of the National TB programme of Nigeria regarding the VEDUTA project.	**PI Name :** Chukwuma Anyaike **Project Start Date :** 19/09/2024 **Project End Date :** 31/12/2024
P24-01376: to support the renewal of the domain name, hosting and SSL certificate for the IR4DTB website	**PI Name :** Ratchanekorn Wutirat **Project Start Date :** 21/09/2024 **Project End Date :** 31/12/2024
P24-01353: Support for the conduct of the TDA4Child initiative in Uganda	**PI Name :** Stavia Turyahabwe **Project Start Date :** 28/07/2024 **Project End Date :** 20/02/2025
P24-01350: Continued support to the SEARN TB secretariat for regional TB response in Southern and East Africa.	**PI Name :** Alemseged Abdissa Lencho **Project Start Date :** 22/07/2024 **Project End Date :** 31/12/2024
P24-01346: Support to the secretariat of the WARN-TB and CARN-TB	**PI Name :** Dissou Affolabi **Project Start Date :** 22/07/2024 **Project End Date :** 31/12/2024
P24-01319: Implementation of Systematic Screening for Tuberculosis Disease and Tuberculosis Preventive Treatment Among People Living with HIV Attending Antiretroviral Treatment Clinics in Ghana: A National Pilot Study	**PI Name :** Rita Patricia Frimpong-Mansoh **Project Start Date :** 31/05/2024 **Project End Date :** 30/06/2024
P24-01254: Training of front line and Health workers for arPZQ delivery	**PI Name :** Paul Kazyoba **Project Start Date :** 20/03/2024 **Project End Date :** 31/03/2024
P24-01252: Development of a research package for the introduction of malaria vaccine	**PI Name :** Paul Milligan **Project Start Date :** **Project End Date :**
P24-01244: Support to NTP activities for implementing VOT in for hard-to-reach population in Senegal	**PI Name :** Yacine MAR DIOP **Project Start Date :** 11/03/2024 **Project End Date :** 31/03/2024
P24-01242: Support for implementing the CASA strategy in preparation of the introduction of the pediatric formulation of praziquantel	**PI Name :** Paul Kazyoba **Project Start Date :** 08/03/2024 **Project End Date :** 31/03/2024
P24-01241: Adaptation of the 99DOTS platform for its use in security compromised districts in Burkina Faso	**PI Name :** **Project Start Date :** 11/03/2024

	Project End Date : 31/03/2024
P24-01234: Organization of a national dialogue meeting for the introduction of Malaria vaccines in Senegal	**PI Name :** Jean-Louis Ndiaye **Project Start Date** : 07/03/2024 **Project End Date** : 31/03/2024
P23-01182: Support to NTP activities for using digital technologies to support the TB response in the Gambia.	**PI Name :** Muhammed Lamin Darboe **Project Start Date** : 04/01/2025 **Project End Date** : 30/07/2025
P23-01168: support for the analysis and result dissemination in a scientific paper for a sub-study of ShORRT in countries of the WARN-TB/CARN-TB	**PI Name :** Jay Achar **Project Start Date** : 05/12/2023 **Project End Date** : 31/12/2023
P23-01166: Technical support for coordination of a special issue on CAD4TB among six countries in WHO Euro region	**PI Name :** Kostyantyn DUMCHEV **Project Start Date** : 04/12/2023 **Project End Date** : 31/12/2023
P23-01165: To support the finalisation and communication of research findings among the WARN-TB & CARN-TB regional network	**PI Name :** Dissou Affolabi **Project Start Date** : 04/12/2023 **Project End Date** : 31/12/2023
P23-01164: To support the finalisation and communication of research findings among the SEARN-TB Regional network	**PI Name :** Alemseged Abdissa Lencho **Project Start Date** : 04/12/2023 **Project End Date** : 31/12/2023
P23-01161: Support to NTP activities for using digital technologies to support the TB response in Tanzania	**PI Name :** JEREMIA MSHIU JOHNSON **Project Start Date** : 04/12/2023 **Project End Date** : 31/12/2023
P23-01158: Support for the development of the 5 years strategic plan for the WARN-TB/CARN-TB.	**PI Name :** Wilfried Bekou **Project Start Date** : 01/12/2023 **Project End Date** : 31/12/2023
P23-01157: Support to NTP activities for using digital technologies to support the TB response in Guinea	**PI Name :** Aboubacar Sidiki MAGASSOUBA **Project Start Date** : 01/12/2023 **Project End Date** : 30/12/2023
P23-01153: Finalising the statistical plan for ShoRRT and providing support to Pakistan	**PI Name :** Michel Vaillant **Project Start Date** : 28/11/2023 **Project End Date** : 31/12/2023
P23-01146: Translation of evalution study material for Social protection in TB patients and generic research package for evaluating the impact of social protection support	**PI Name :** Dissou Affolabi **Project Start Date** : 23/11/2023 **Project End Date** : 31/12/2023
P23-01140: To provide support for the development of data collection systems of TB research packages	**PI Name :** Amadou Seck **Project Start Date** : 21/11/2023 **Project End Date** : 31/12/2023
P23-01136: support for the evaluation of the performance of the WHO Global TB TDA for children.	**PI Name :** Vania Araujo **Project Start Date** : 14/11/2023 **Project End Date** : 31/12/2023

P23-01124: Support for the publication of a scientific malaria paper.	**PI Name :** Jean-Louis Ndiaye **Project Start Date :** 01/12/2023 **Project End Date :** 31/12/2023
P23-01113: Support to NTP activities for using digital technologies to support the TB response in [COUNTRY]	**PI Name :** Benedita Jose **Project Start Date :** 30/10/2023 **Project End Date :** 30/12/2023
P23-01112: Support to NTP activities for using digital technologies to support the TB response in Nigeria.	**PI Name :** Obioma Chijioke Akaniro **Project Start Date :** 30/10/2023 **Project End Date :** 30/12/2023
P23-01110: Organization of the 2023 WARN-TB & CARN-TB meeting.	**PI Name :** Dissou Affolabi **Project Start Date :** 30/10/2023 **Project End Date :** 30/12/2023
P23-01099: Supporting a scoping study of the social protection landscape for people affected by TB in DRC.	**PI Name :** Dieynaba Sophie N'diaye **Project Start Date :** 27/10/2023 **Project End Date :** 30/12/2023
P23-01061: Collection of key stakeholder feedback and validation of a generic research protocol for evaluating the impact of social protection-related activities on TB patients and their families	**PI Name :** Priya Shete **Project Start Date :** 06/10/2023 **Project End Date :** 30/12/2023
P23-01060: Support to NTP activities for using digital technologies to support the TB response in Uganda.	**PI Name :** Stavia Turyahabwe **Project Start Date :** 06/10/2023 **Project End Date :** 30/12/2023
P23-01054: Supporting the piloting of the TB Impact assessment DHIS module to evaluate the impact of COVID-19 pandemic on TB service provision in Ethiopia	**PI Name :** Alemseged Abdissa Lencho **Project Start Date :** 10/08/2023 **Project End Date :** 30/12/2023
P23-01052: Support to NTP activities for using digital technologies to support the TB response in Lesotho	**PI Name :** Tsehlo Tsehlo **Project Start Date :** 25/09/2023 **Project End Date :** 30/12/2023
P23-01051: Nigeria – support for the conduct of the TDA4Child initiative dubbed as VEDUTA in Nigeria	**PI Name :** Chukwuma Anyaike **Project Start Date :** 19/09/2023 **Project End Date :** 31/12/2023
P23-01050: Supporting the Armaeur Hansen Research Institute (AHRI) as Secretariat of SEARN TB for activities to support the regional TB response in Southern and East Africa	**PI Name :** Alemseged Abdissa Lencho **Project Start Date :** 15/09/2023 **Project End Date :** 30/12/2023
P23-01049: Support to Makerere university for activities for using digital technologies to support the TB response in partnership with the Ugandan Supranational reference laboratory	**PI Name :** Moses Lutaakome Joloba **Project Start Date :** 15/09/2023 **Project End Date :** 30/12/2023
P23-01035: Support for strengthening the capacities of National Tuberculosis Programmes in health economics	**PI Name :** Dieynaba Sophie N'diaye **Project Start Date :** 04/09/2023 **Project End Date :** 12/09/2023
P23-01009: Technical support for data analysis and manuscript preparation to countries as part of the	**PI Name :** Kostyantyn DUMCHEV **Project Start Date :** 24/07/2023

Implementation Research for Digital Technologies in TB (IR4DTB) project in WHO EURO region	**Project End Date** : 30/12/2023
P23-01002: Coordination and organization of a regional workshop on strengthening TB surveillance systems and identifying priorities for implementation research in Addis Ababa.	**PI Name :** Alemseged Abdissa Lencho **Project Start Date** : 06/07/2023 **Project End Date** : 30/12/2023
P23-00993: Piloting and refining a generic research protocol for evaluating the impact of social protection-related activities on TB patients and their families	**PI Name :** Ellyn McCaffrey **Project Start Date** : 26/06/2023 **Project End Date** : 30/12/2023
P23-00980: Supporting the National TB Programme to conduct in-country study monitoring for the finalization of the ShORRT project in DRC	**PI Name :** Michel KASWA KAYOMO **Project Start Date** : 29/05/2023 **Project End Date** : 31/07/2023
P23-00977: French translation of the TDA4Child research package	**PI Name :** Emmanuelle Papot **Project Start Date** : 21/05/2023 **Project End Date** : 28/05/2023
P23-00975: Support for conducting data analysis for ShORRT	**PI Name :** Schadrac Agbla **Project Start Date** : 19/05/2023 **Project End Date** : 31/05/2023
P23-00968: Design and development of Spanish version of the Implementation Research for Digital technologies and TB toolkit website and offline, PDF versions in Spanish	**PI Name :** Ratchanekorn Wutirat **Project Start Date** : 10/05/2023 **Project End Date** : 30/09/2023
P23-00967: Development of a generic research protocol for evaluating the impact of social protection-related activities on TB patients and their families	**PI Name :** Priya Shete **Project Start Date** : 12/05/2023 **Project End Date** : 30/08/2023
P23-00964: Support to the secretariat of the Southern and East Africa Regional Network for TB	**PI Name :** Alemseged Abdissa Lencho **Project Start Date** : 08/05/2023 **Project End Date** : 30/07/2023
P23-00956: To provide support for data collection systems and analysis activities for TB-related research packages	**PI Name :** Amadou Seck **Project Start Date** : 17/04/2023 **Project End Date** : 31/12/2023
P23-00949: Coordination and organization of the first meeting of NTPs in Southern and East Africa to establish a new regional research network	**PI Name :** Alemseged Abdissa Lencho **Project Start Date** : 06/04/2023 **Project End Date** : 30/05/2023
P23-00948: Supporting the data analysis of the ShORRT research package	**PI Name :** Michel Vaillant **Project Start Date** : 04/04/2023 **Project End Date** : 31/07/2023
P23-00926: Supporting the organisation of Spanish-language translation required for the ShoRRT REDCap training course.	**PI Name :** Amadou Seck **Project Start Date** : 27/02/2023 **Project End Date** : 03/03/2023
P23-00891: Supporting the NTP in Ukraine to conduct activities for using digital technologies to support the TB response	**PI Name :** Mykhailo Riabinchuk **Project Start Date** : 09/02/2023 **Project End Date** : 28/03/2023

P23-00889: A new online toolkit to support implementation research to enhance the use of digital innovations to End TB.
PI Name :
Project Start Date : 31/01/2023
Project End Date : 15/02/2023

P23-00887: Support to NTP activities for using digital technologies to support the TB response in Romania.
PI Name : Beatrice Mahler
Project Start Date : 30/01/2023
Project End Date : 24/03/2023

P22-00873: Support for implementing a demonstration project on "CXR-symptom" screening and TB Preventive Treatment (TPT) of known type-2 diabetes patients at public facilities.
PI Name : Muhammed Amir Khan
Project Start Date : 22/12/2022
Project End Date : 31/03/2024

P22-00872: Support for strengthening the capacities of National Malaria Programmes in health economics
PI Name : Dieynaba Sophie N'diaye
Project Start Date : 22/12/2022
Project End Date : 15/01/2024

P22-00870: Organization of the 2022 WARN-TB & CARN-TB meeting
PI Name : Dissou Affolabi
Project Start Date : 16/12/2022
Project End Date : 30/01/2023

P22-00864: Support to NTP activities in Burkina Faso for mitigating the impact of TB through social protection
PI Name : Adjima Combary
Project Start Date : 12/12/2022
Project End Date : 31/12/2023

P22-00857: Support to NTP activities in Guinea for mitigating the impact of TB through social protection
PI Name : Adama Marie Bangoura
Project Start Date : 12/12/2022
Project End Date : 31/12/2023

P22-00856: Support to NTP activities in Guinea for mitigating the impact of TB through social protection
PI Name : Almamy Amara TOURE
Project Start Date : 12/12/2022
Project End Date : 31/12/2023

P22-00855: Support to NTP activities in Burundi for mitigating the impact of TB through social protection
PI Name : Josélyne NSANZERUGEZE
Project Start Date : 12/12/2022
Project End Date : 31/12/2023

P22-00853: Support to NTP activities in BENIN for mitigating the impact of TB through social protection
PI Name : Dissou Affolabi
Project Start Date : 12/12/2022
Project End Date : 31/12/2023

P22-00852: Support to NTP activities in Nigeria for mitigating the impact of TB through social protection
PI Name : Chukwuma Anyaike
Project Start Date : 12/12/2022
Project End Date : 31/12/2023

P22-00837: Effectiveness and safety of Bedaquilline-based, Modified All-oral 9-11 month treatment regimen for rifampicin resistant Tuberculosis in Vietnam
PI Name : Thi Mai Phuong Nguyen
Project Start Date : 27/01/2024
Project End Date : 28/02/2024

P22-00830: Coordination and organization of a regional meeting of NTPs in West and Central Africa on improving TB surveillance capacity to monitor and mitigate the impact of COVID-19 and future public health emergencies
PI Name : Dissou Affolabi
Project Start Date : 25/11/2022
Project End Date : 09/12/2022

P22-00828: Support to the Rwanda Biomedical Centre to support the Rwandan National TB Programme to installing and piloting the DHIS 2 TB IMPAX dashboard for monitoring the impact of COVID and other public health emergencies on TB services in Rwanda

PI Name : James Kamanzi
Project Start Date : 18/11/2022
Project End Date : 09/12/2022

P22-00825: Translation in Portuguese of ShORRT research package material

PI Name : Frederico Carroli
Project Start Date : 17/11/2022
Project End Date : 30/11/2022

P22-00822: Conduct of a survey on TB&SARS-CoV-2 dual testing

PI Name : Aboubacar Sidiki MAGASSOUBA
Project Start Date : 14/11/2022
Project End Date : 30/11/2022

P22-00821: Support for the conduct of a survey on TB&SARS-CoV-2 dual testing

PI Name : Christ Kevin Rajoum HOUESSINON
Project Start Date : 14/11/2022
Project End Date : 30/11/2022

P22-00819: EDITING of the TB&SARS-CoV-2 dual testing report

PI Name : Janet Neubecker
Project Start Date : 11/11/2022
Project End Date : 18/11/2022

P22-00814: Russian translation support for follow up meeting among participating countries of the IR4DTB training workshop

PI Name : Tatiana Polunina
Project Start Date : 09/11/2022
Project End Date : 30/11/2022

P22-00813: Russian translation support for follow up meeting among participating countries of the IR4DTB training workshop

PI Name : Lyudmila Yurastova
Project Start Date : 09/11/2022
Project End Date : 30/11/2022

P22-00812: Support to the National TB Programme for installing and piloting the DHIS 2 TB IMPAX dashboard for monitoring the impact of COVID and other public health emergencies on TB services in Guinea

PI Name : Adama Marie Bangoura
Project Start Date : 07/11/2022
Project End Date : 30/11/2022

P22-00811: Support to PROGRAMME NATIONAL DE LUTTE CONTRE LA TUBERCULOSE for installing and piloting the DHIS 2 TB IMPAX dashboard for monitoring the impact of COVID and other public health emergencies on TB services in Chad

PI Name : Oumar Abdelhadi
Project Start Date : 07/11/2022
Project End Date : 30/11/2022

P22-00810: Support to Programme National Tuberculose for installing and piloting the DHIS 2 TB IMPAX dashboard for monitoring the impact of COVID and other public health emergencies on TB services in Burkina Faso.

PI Name : Adjima Combary
Project Start Date : 07/11/2022
Project End Date : 30/11/2022

P22-00809: Support to Programme National contre la Tuberculose (PNT) for installing and piloting the DHIS 2 TB IMPAX dashboard for monitoring the impact of COVID and other public health emergencies on TB services in Benin

PI Name : Dissou Affolabi
Project Start Date : 07/11/2022
Project End Date : 30/11/2022

P22-00795: EDITING of the Seasonal Malaria Chemoprevention field guide.

PI Name : Janet Neubecker
Project Start Date : 14/10/2022
Project End Date : 01/11/2022

P22-00794: Russian translation support for Implementation Research for Digital Technologies in TB (IR4DTB) toolkit work package
PI Name : Tatiana Polunina
Project Start Date : 21/10/2022
Project End Date : 30/10/2022

P22-00793: Further support for Russian-English language translation as part of the activities related to the Implementation Research for Digital Technologies in TB (IR4DTB) toolkit
PI Name : Lyudmila Yurastova
Project Start Date : 21/10/2022
Project End Date : 30/10/2022

P22-00791: Support to the national TB programme of Niger for defining patients and health system risk factors of death in TB/HIV patients and the development of a generic protocol.
PI Name : Emmanuelle Papot
Project Start Date : 10/10/2022
Project End Date : 30/12/2023

P22-00779: Support to NTP activities for using digital technologies to support the TB response, Armenia.
PI Name : Naira Khachatryan
Project Start Date : 30/09/2022
Project End Date : 30/06/2023

P22-00765: Support for the conduct of the ShoRRT project in Nigeria.
PI Name : Osman Eltayeb
Project Start Date : 20/09/2022
Project End Date : 30/12/2022

P22-00753: Support to Moldova NTP activities for using digital technologies to support the TB response
PI Name : Elena Tudor
Project Start Date : 26/09/2022
Project End Date : 30/06/2023

P22-00703: IR4DTB: renewal domain name, hosting and SSL certificate
PI Name : Ratchanekorn Wutirat
Project Start Date : 01/07/2022
Project End Date : 31/07/2022

P22-00672: Russian translation support for Implementation Research for Digital Technologies in TB (IR4DTB) toolkit work package
PI Name : Georgy PIGNASTYY
Project Start Date : 13/06/2022
Project End Date : 17/06/2022

P22-00671: Russian translation support for Implementation Research for Digital Technologies in TB (IR4DTB) toolkit work package
PI Name : Lyudmila Yurastova
Project Start Date : 13/06/2022
Project End Date : 17/06/2022

P22-00670: Russian translation support for Implementation Research for Digital Technologies in TB (IR4DTB) toolkit work package
PI Name : Tatiana Polunina
Project Start Date : 13/06/2022
Project End Date : 17/06/2022

P22-00668: Study mentorship support during the virtual workshop on Implementation Research for Digital Technologies in TB (IR4DTB)
PI Name : Ana CIOBANU
Project Start Date : 13/06/2022
Project End Date : 25/06/2022

P22-00667: Study mentorship support during the virtual workshop on Implementation Research for Digital Technologies in TB (IR4DTB)
PI Name : Kostyantyn DUMCHEV
Project Start Date : 13/06/2022
Project End Date : 30/06/2022

P22-00666: Study mentorship support during the virtual workshop on Implementation Research for Digital Technologies in TB (IR4DTB)
PI Name : Araksya HOVHANNESYAN
Project Start Date : 13/06/2022
Project End Date : 25/06/2022

P22-00663: Design and layout for the French version of the country analysis report on surveillance and
PI Name : Thomas Scalway
Project Start Date : 09/06/2022

control of arboviral disease in Africa	**Project End Date :** 31/07/2022
P22-00658: Coordination of activities to improve TB surveillance capacity among National TB Programme members of the West and Central Africa Network for TB Control and WARN-TB/CARN-TB activities.	**PI Name :** Dissou Affolabi **Project Start Date :** 06/06/2022 **Project End Date :** 15/01/2023
P22-00655: Support for integrating cost aspects in implementation/operational research projects.	**PI Name :** Dieynaba Sophie N'diaye **Project Start Date :** 30/05/2022 **Project End Date :** 31/05/2023
P22-00654: Russian translation support for Implementation Research for Digital Technologies in TB (IR4DTB) toolkit work package	**PI Name :** Tatiana Polunina **Project Start Date :** 25/05/2022 **Project End Date :** 10/06/2022
P22-00650: Russian translation support for Implementation Research for Digital Technologies in TB (IR4DTB) toolkit work package	**PI Name :** Lyudmila Yurastova **Project Start Date :** 25/05/2022 **Project End Date :** 31/05/2022
P22-00649: Operationalizing “Prevent-TB” assisted “CXR-symptom” screening and TB Preventive Treatment (TPT) of the household contacts of known TB patients at public BMUs	**PI Name :** Muhammed Amir Khan **Project Start Date :** 24/05/2022 **Project End Date :** 31/03/2023
P22-00602: French translation of the CAD calibration toolkit	**PI Name :** Valerie Louis **Project Start Date :** 14/03/2022 **Project End Date :** 30/04/2022
P22-00586: Prevalence, acceptability, and cost of routine screening for pulmonary tuberculosis among pregnant women in Cotonou, Benin	**PI Name :** Author Billing Team **Project Start Date :** 22/02/2022 **Project End Date :** 30/03/2022
P22-00578: Implementing and supporting the data collection system of the ShORRT research package	**PI Name :** Amadou Seck **Project Start Date :** 07/02/2022 **Project End Date :** 31/12/2022
P21-00555: WARN-TB and CARN-TB- Capacity Building for conducting OR/IR projects	**PI Name :** Nimer Ortuno-Gutierrez **Project Start Date :** 05/10/2020 **Project End Date :** 31/08/2021
P21-00554: WARN-TB and CARN-TB- Capacity Building for conducting OR/IR projects	**PI Name :** Desire Lucien Dahourou **Project Start Date :** 07/09/2020 **Project End Date :** 31/08/2021
P21-00553: MDR/RR-TB implementation research package	**PI Name :** Jonathon Campbell **Project Start Date :** 29/08/2020 **Project End Date :** 31/12/2020
P21-00545: Liberia - support for the use of the TB costing toolkit	**PI Name :** ERNEST W. CHOLOPRAY **Project Start Date :** 12/12/2021 **Project End Date :** 28/02/2022
P21-00544: Research capacity strengthening (ShORRT) in Colombia	**PI Name :** Gloria Puerto Castro **Project Start Date :** 12/12/2021 **Project End Date :** 28/02/2022

P21-00538: Statistical support to estimate the burden of arboviral disease in Burkina Faso and evaluate the feasibility of using measles/rubella surveillance specimens for sentinel surveillance of Zika and other AVD	**PI Name :** Toussaint ROUAMBA **Project Start Date :** 07/12/2021 **Project End Date :** 31/12/2021
P21-00536: Research capacity strenghtening (ShORRT) in Mexico	**PI Name :** Fatima Leticia Luna Lopez **Project Start Date :** 06/12/2021 **Project End Date :** 28/02/2022
P21-00532: ShORRT Research capacity strengthening in Mozambique	**PI Name :** Claudia Mutaquiha **Project Start Date :** 03/12/2021 **Project End Date :** 28/02/2022
P21-00531: Design and development of Russian version of the Implementation Research for Digital technologies and TB toolkit website and offline, PDF versions in Russian, GBP 9531	**PI Name :** Ratchanekorn Wutirat **Project Start Date :** 03/12/2021 **Project End Date :** 31/12/2021
P21-00530: Research capacity strenghtening (ShORRT) in the Dominican Republic	**PI Name :** Melanea Casanova **Project Start Date :** 02/12/2021 **Project End Date :** 28/02/2022
P21-00529: Cameroon - support for the use of the TB costing toolkit	**PI Name :** Annie Bisso **Project Start Date :** 01/12/2021 **Project End Date :** 28/02/2022
P21-00528: Support to Columbia for the evaluation of EWARS	**PI Name :** Milena Borbon Ramos **Project Start Date :** 03/12/2021 **Project End Date :** 28/02/2022
P21-00527: Columbia – better documenting EWARS effectiveness on Dengue control	**PI Name :** Milena Borbon Ramos **Project Start Date :** 30/12/2021 **Project End Date :** 28/02/2022
P21-00525: Sri-Lanka – better documenting EWARS effectiveness on Dengue control	**PI Name :** Hasitha Tissera **Project Start Date :** 03/12/2021 **Project End Date :** 28/02/2022
P21-00524: Design and layout of the country analysis report on surveillance and control of arboviral disease in Africa	**PI Name :** Thomas Scalway **Project Start Date :** 01/12/2021 **Project End Date :** 31/12/2021
P21-00522: Support to the National Malaria Programme of the OPT-SMC project for the qualitative aspects of their OR/IR projects.	**PI Name :** Nadia Fanou Fogny **Project Start Date :** 01/12/2021 **Project End Date :** 31/12/2021
P21-00519: Nicaragua – research capacity strenghtening (ShORRT)	**PI Name :** Manuel de Jesus Bravo Reyes **Project Start Date :** 01/12/2021 **Project End Date :** 28/02/2022
P21-00518: Online training on Good Datamanagement practices and REDCap	**PI Name :** Amadou Seck **Project Start Date :** 01/12/2021 **Project End Date :** 28/02/2022

P21-00516: Burkina Faso - support for the use of the TB costing toolkit
PI Name : Adjima Combary
Project Start Date : 01/12/2021
Project End Date : 28/02/2022

P21-00514: implementating social protection for TB patients – the PECEM-TB project in Benin
PI Name : Dissou Affolabi
Project Start Date : 01/12/2021
Project End Date : 28/02/2022

P21-00512: Annual meeting of the West and Central Africa for TB control Networks (WARN-TB & CARN-TB)
PI Name : Dissou Affolabi
Project Start Date : 30/11/2021
Project End Date : 31/12/2021

P21-00507: Senegal- Face to face training on Good Datamanagement practices and REDCap
PI Name : Jean Louis A. Ndiaye
Project Start Date : 23/11/2021
Project End Date : 28/02/2022

P21-00506: Burkina Faso- Face to face training on Good Datamanagement practices and REDCap
PI Name : Benjamin Sombie
Project Start Date : 23/11/2021
Project End Date : 28/02/2022

P21-00505: Benin- Face to face training on Good Datamanagement practices and REDCap
PI Name : Dissou Affolabi
Project Start Date : 23/11/2021
Project End Date : 28/02/2022

P21-00495: Evaluation of the West and Central African network for TB Research (WARN/CARN TB).
PI Name : Martha McGuire
Project Start Date : 15/11/2021
Project End Date : 31/12/2021

P21-00494: Follow-up activities for the WARN-TB & CARN-TB and the piloting of the framework for evaluating the impact of COVID-19 on TB control
PI Name : Vanessa Veronese
Project Start Date : 15/11/2021
Project End Date : 30/11/2021

P21-00493: French translation of OPT-SMC document
PI Name : Natasha Waschewsky
Project Start Date : 15/11/2021
Project End Date : 01/12/2021

P21-00492: Support for the development of a research protocol for operationalizing “symptom-CXR” screening of Household TB contacts and LTBi preventive treatment
PI Name : Muhammed Amir Khan
Project Start Date : 12/11/2021
Project End Date : 28/02/2022

P21-00487: Support to Programme National Tuberculose, Burkina Faso for pilot testing of the Impact assessment framework to evaluate the impact of COVID-19 pandemic on TB service provision in West and Central Africa
PI Name : Adjima Combary
Project Start Date : 10/11/2021
Project End Date : 20/12/2021

P21-00486: Support to Programme National de lutte contre la Tuberculose, Chad for pilot testing of the Impact assessment framework to evaluate the impact of COVID-19 pandemic on TB service provision in West and Central Africa.
PI Name : Oumar Abdelhadi
Project Start Date : 10/11/2021
Project End Date : 20/12/2021

P21-00485: Support to Programme National de Lutte Antituberculeuse (PNLAT), Guinea for pilot testing of the Impact assessment framework to evaluate the impact of COVID-19 pandemic on TB service provision
PI Name : Adama Marie Bangoura
Project Start Date : 10/11/2021
Project End Date : 20/12/2021

in West and Central Africa and use of TB costing tool.

P21-00483: Support to Programme National contre la Tuberculose (PNT), Benin for pilot testing of the Impact assessment framework to evaluate the impact of COVID-19 pandemic on TB service provision in West and Central Africa

PI Name : Dissou Affolabi
Project Start Date : 10/11/2021
Project End Date : 20/12/2021

P21-00480: Design and layout of the OPT-SMC research package

PI Name : Thomas Scalway
Project Start Date : 08/11/2021
Project End Date : 31/12/2021

P21-00479: The UNION - support for the use of the TB costing toolkit

PI Name : Kobto Koura
Project Start Date : 08/11/2021
Project End Date : 31/12/2021

P21-00447: ShORRT research capacity strengthening in Lao PDR

PI Name : Vibol IEM
Project Start Date : 04/10/2021
Project End Date : 31/12/2021

P21-00445: ShORRT Research capacity strengthening in Ghana

PI Name : Yaw Adusi-Poku
Project Start Date : 04/10/2021
Project End Date : 31/12/2021

P21-00440: Follow-up activities for the use of the framework for evaluating the impact of COVID-19 on TB control and for the WARN-TB & CARN-TB communication activities

PI Name : Vanessa Veronese
Project Start Date : 30/09/2021
Project End Date : 05/11/2021

P21-00433: ShORRT data management and analysis

PI Name : Schadrac Agbla
Project Start Date : 01/10/2021
Project End Date : 31/12/2021

P21-00429: Research capacity strengthening (CARN-TB activities) - Cameroon.

PI Name : Vincent Mbassa
Project Start Date : 25/09/2020
Project End Date : 31/07/2021

P21-00428: Russian translation of Implementation Research for Digital Technologies in TB (IR4DTB) toolkit

PI Name : Tatiana Polunina
Project Start Date : 27/09/2021
Project End Date : 15/12/2021

P21-00422: French TB cost collection toolkit and finalisation of the English version.

PI Name : Thomas Scalway
Project Start Date : 21/09/2021
Project End Date : 15/12/2021

P21-00417: Supporting the writing of WARN.TB and CARN-TB papers and for the conduct of evaluation on the impact of COVID-19 on TB control

PI Name : Vanessa Veronese
Project Start Date : 13/09/2021
Project End Date : 23/09/2021

P21-00403: IR4DTB French translation.

PI Name : Valerie Louis
Project Start Date : 06/09/2021
Project End Date : 15/10/2021

P21-00396: Strengthening monitoring and preparedness of TB services to avert disruptions caused by COVID-19 and future global health

PI Name : Vanessa Veronese
Project Start Date : 24/08/2021
Project End Date : 07/09/2021

emergencies

P21-00388: Support for reporting OR study results in scientific papers - Guinea
PI Name : Adama Marie Bangoura
Project Start Date : 13/08/2021
Project End Date : 20/09/2021

P21-00387: Research capacity strengthening (ShORRT) - CAR
PI Name : Gando Herve Gildas
Project Start Date : 05/08/2021
Project End Date : 31/12/2021

P21-00372: Support to the WARN-TB and CARN-TB for strengthening NTP Capacities for conducting OR/IR projects
PI Name : C. A. Hugues Traore
Project Start Date : 19/07/2021
Project End Date : 31/12/2021

P21-00371: Support for the development and use of the TB costing tool research package
PI Name : Dieynaba Sophie N'diaye
Project Start Date : 19/07/2021
Project End Date : 31/12/2021

P21-00370: Design and development of a two-page fact sheet on the CAD toolkit.
PI Name : Thomas Scalway
Project Start Date : 15/07/2021
Project End Date : 30/09/2021

P21-00368: WARN-TB & CARN-TB - Short video in French.
PI Name : Maria Hoole
Project Start Date : 15/07/2021
Project End Date : 15/08/2021

P21-00361: IR4DTB: renewal domain name, hosting and SSL certificate
PI Name : Ratchanekorn Wutirat
Project Start Date : 05/07/2021
Project End Date : 31/07/2021

P21-00337: Evaluation of the impact of the Good Data management practice training programme conducted in 5 west African countries
PI Name : Elhadji Konco Ciré BA
Project Start Date : 13/07/2021
Project End Date : 30/09/2021

P21-00289: Spanish/Portuguese translation - ShORRT readiness assessment checklist; data dictionary; interpretation services.
PI Name : Frederico Carroli
Project Start Date : 15/05/2021
Project End Date : 30/05/2021

P21-00275: Support for the development of the database of REDCap for the DIAMA project
PI Name : Amadou Seck
Project Start Date : 07/05/2021
Project End Date : 30/05/2021

P21-00271: Design and layout of the CAD toolkit
PI Name : Thomas Scalway
Project Start Date : 03/05/2021
Project End Date : 30/05/2021

P21-00238: WARN-TB and CARN-TB- Capacity Building for conducting OR/IR projects.
PI Name : Isidore T. Traore
Project Start Date : 07/09/2020
Project End Date : 31/08/2021

P21-00237: Support to the WARN-TB & CARN-TB for scientific written communication
PI Name : Dissou Affolabi
Project Start Date : 29/03/2021
Project End Date : 31/12/2021

P21-00234: Training on how to implement GCP principles for TB surveys
PI Name : Varalakshmi Elango
Project Start Date : 26/03/2021

	Project End Date : 31/05/2021
P21-00233: Training on how to implement GCP principles for TB surveys	**PI Name :** Jennifer Kealy **Project Start Date** : 26/03/2021 **Project End Date** : 31/05/2021
P21-00232: Coordination of the activities of the West and Central Africa networks for TB control	**PI Name :** Dissou Affolabi **Project Start Date** : 29/03/2021 **Project End Date** : 31/12/2021
P21-00228: ShORRT research package: support for implementing and supporting data collection	**PI Name :** Amadou Seck **Project Start Date** : 25/03/2021 **Project End Date** : 25/12/2021
P21-00209: Situation analysis concerning surveillance and arboviral diseases control in West Africa - this is in conjunction with PO202465012 which was closed	**PI Name :** Thomas Scalway **Project Start Date** : 10/03/2021 **Project End Date** : 30/06/2021
P21-00208: Research capacity strenghtening (ShORRT), Rwanda.	**PI Name :** James Kamanzi **Project Start Date** : 03/03/2021 **Project End Date** : 30/11/2021
P21-00207: Implementation of aDSM in West and Central Africa and meeting of the WARN_TB and CARN-TB Networks	**PI Name :** Dissou Affolabi **Project Start Date** : 01/03/2021 **Project End Date** : 26/03/2021
P21-00204: Research capacity strengthening (ShORRT) - Guinea	**PI Name :** Adama Marie Bangoura **Project Start Date** : 09/03/2021 **Project End Date** : 30/11/2021
P21-00202: Research capacity strengthening (ShORRT) - Burkina Faso	**PI Name :** Adjima Combary **Project Start Date** : 08/03/2021 **Project End Date** : 30/11/2021
P21-00201: Research capacity strenghtening (ShORRT) - TOGO	**PI Name :** Mohammed Fall Dogo **Project Start Date** : 08/03/2021 **Project End Date** : 30/11/2021
P21-00190: ShORRT: All-oral shorter treatment regimens for multidrug-and rifampicin-resistant tuberculosis (MDR/RR-TB): Evaluating their effectiveness, safety and impact on the quality of life of patients in Benin	**PI Name :** Dissou Affolabi **Project Start Date** : 15/02/2021 **Project End Date** : 30/11/2021
P21-00189: ShORRT: All-oral shorter treatment regimens for multidrug-and rifampicin-resistant tuberculosis (MDR/RR-TB): Evaluating their effectiveness, safety and impact on the quality of life of patients in the Democratic Republic of the Congo	**PI Name :** Michel KASWA KAYOMO **Project Start Date** : 15/02/2021 **Project End Date** : 30/11/2021
P21-00180: ShORRT: the Bedaquiline-based all-oral Shorter Treatment regimen for DR-TB patients (BESTREAM) study: a modified approach	**PI Name :** Adebola Lawanson **Project Start Date** : 20/02/2021 **Project End Date** : 19/02/2022
P21-00174: French translation of reserch for TB documents	**PI Name :** Valérie R. Louis **Project Start Date** : 29/01/2021

Project End Date : 15/03/2021

P21-00173: To finalise the development of a model implementation research frameworks for digital innovations using the already existing version of the IR toolkit

PI Name : Vanessa Veronese
Project Start Date : 27/01/2021
Project End Date : 26/07/2021

P21-00171: To finalise the development of generic tools (protocol, data collection tools, study procedures) for enhancing the conduct of implementation TB research led by National TB programmes aiming at implementing MDR/RR-TB.

PI Name : Debora Pedrazzoli
Project Start Date : 25/01/2021
Project End Date : 24/07/2021

P20-00155: Technical editing of the guidance for ensuring good clinical and data management practices for national TB surveys

PI Name : Sarah Galbraith-Emami
Project Start Date : 28/12/2020
Project End Date : 10/01/2021

C00006: Research capacity strengthening for improving MDR-TB treatment and care - Cambodia

PI Name : Mao Tan Eang
Project Start Date : 03/02/2020
Project End Date : 30/11/2020

ER Country Links

WHO Region :	AFRO	**Country:**	São Tomé and Principe	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Rwanda	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Niger	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Gambia, The	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Angola	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Senegal	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Nigeria	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Chad	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Togo	**World Bank Income Group :**	Low income

WHO Region :	AFRO	**Country:**	Burkina Faso	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Sierra Leone	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Liberia	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Equatorial Guinea	**World Bank Income Group :** Upper middle income
WHO Region :	AFRO	**Country:**	Guinea-Bissau	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Cameroon	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Cabo Verde	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Benin	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Central African Republic	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Mali	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Congo, Dem. Rep.	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Burundi	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Congo, Rep.	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Mauritania	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Côte d'Ivoire	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Guinea	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Ghana	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Gabon	**World Bank Income Group :** Upper middle income
WHO Region :	AFRO	**Country:**	Zimbabwe	**World Bank Income Group :** Lower middle income

WHO Region :	AFRO	**Country:**	Mozambique	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Tanzania	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Malawi	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Ethiopia	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	South Africa	**World Bank Income Group :** Upper middle income
WHO Region :	AFRO	**Country:**	Lesotho	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Uganda	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Namibia	**World Bank Income Group :** Upper middle income
WHO Region :	AFRO	**Country:**	Zambia	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	South Sudan	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Kenya	**World Bank Income Group :** Lower middle income
WHO Region :	AFRO	**Country:**	Eritrea	**World Bank Income Group :** Low income
WHO Region :	AFRO	**Country:**	Botswana	**World Bank Income Group :** Upper middle income
WHO Region :	AMRO	**Country:**	Guatemala	**World Bank Income Group :** Upper middle income
WHO Region :	AMRO	**Country:**	Peru	**World Bank Income Group :** Upper middle income
WHO Region :	AMRO	**Country:**	Bolivia	**World Bank Income Group :** Lower middle income
WHO Region :	AMRO	**Country:**	Mexico	**World Bank Income Group :** Upper middle income
WHO Region :	AMRO	**Country:**	Ecuador	**World Bank Income Group :** Upper middle income
WHO Region :	AMRO	**Country:**	Nicaragua	**World Bank Income Group :** Lower middle income

WHO Region :	AMRO	**Country:**	Colombia	**World Bank Income Group :**	Upper middle income
WHO Region :	AMRO	**Country:**	Haiti	**World Bank Income Group :**	Low income
WHO Region :	AMRO	**Country:**	Argentina	**World Bank Income Group :**	Upper middle income
WHO Region :	EMRO	**Country:**	Sudan	**World Bank Income Group :**	Low income
WHO Region :	EMRO	**Country:**	Pakistan	**World Bank Income Group :**	Lower middle income
WHO Region :	EMRO	**Country:**	Djibouti	**World Bank Income Group :**	Lower middle income
WHO Region :	EMRO	**Country:**	Somalia	**World Bank Income Group :**	Low income
WHO Region :	EURO	**Country:**	Moldova	**World Bank Income Group :**	Lower middle income
WHO Region :	EURO	**Country:**	Ukraine	**World Bank Income Group :**	Lower middle income
WHO Region :	EURO	**Country:**	Armenia	**World Bank Income Group :**	Upper middle income
WHO Region :	EURO	**Country:**	Georgia	**World Bank Income Group :**	Upper middle income
WHO Region :	EURO	**Country:**	Uzbekistan	**World Bank Income Group :**	Lower middle income
WHO Region :	WPRO	**Country:**	China	**World Bank Income Group :**	Upper middle income
WHO Region :	WPRO	**Country:**	Vietnam	**World Bank Income Group :**	Lower middle income
WHO Region :	WPRO	**Country:**	Lao PDR	**World Bank Income Group :**	Lower middle income
WHO Region :	WPRO	**Country:**	Cambodia	**World Bank Income Group :**	Lower middle income
WHO Region :	WPRO	**Country:**	Papua New Guinea	**World Bank Income Group :**	Lower middle income
WHO Region :	WPRO	**Country:**	Mongolia	**World Bank Income Group :**	Lower middle income

Expected Result: 1.2.8

Title: Digital solutions for improved public health

Strategic Work Area: Research for implementation
Workstream: Research for delivery and access

ER type: New
Funding type: UD and DF

Start date: 01/01/2026
End date: 31/12/2027

ER status: On Track
Comment: New ER, in planning stage

WHO region: Global

Partners: Disease control programmes and research institutions in LMIC

Diseases: Epidemics and outbreaks;Control and elimination of diseases of poverty;Climate change's impact on health;Resistance to treatment and control agents

Review mechanism: Scientific working group and other ad-hoc or collaboration-based review systems as appropriate

ER manager: Vanessa Veronese
Team: Vanessa Veronese
Number of people working on projects: 1

FENSA clearance obtained for all Non-State Actors? No
Justification for no FENSA clearance: Specific partners not yet identified (to be done by end of 2025)

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	No
Roles complimentary:	No
Coordination transparent:	No
Visibility:	No

Objectives and results chain

Approach to ensure uptake:	Involvement of different WHO headquarters, regional and country departments, key stakeholders such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, NGOs and control programmes; capacity built at country level.
Up-take/Use Indicator:	Evidence taken into consideration in treatment and normative guidelines
Gender and geographic equity:	For all activities, we try to ensure parity across male/female representation and participation. For geographic equity, we will aim to distribute our activities across the 6 WHO regions.
Publication plan:	Peer review publications, presentation at international congress, dissemination in-country including policy briefs
Up-take/use indicator target date:	31/12/2027

Sustainable Development Goals

Good Health and Well-being;Reduced Inequality;Climate Action

Concept and approach

Rationale:

Implementation research has a key role to play in supporting the piloting and scale up of new technological innovations for health. Digital technologies offer new ways to tackle persistent public health challenges, to improve the reach and efficiency of health services, and/or the judicious use of public resources. However, challenges related to implementation – often conditioned by local factors and therefore context-specific – play an important role in determining how the introduction, uptake and scale-up of digital innovations will play out in different settings. IR therefore offers a systematic approach to investigating how innovations such as digital technologies can be effectively and equitably implemented and scaled to maximize impact, while circumventing barriers to access among hard to reach and/or marginalized populations

Design and methodology:

This ER will adopt the following approaches:

1. Utilizing regional networks of disease control programmes: existing disease control programme networks will be used as a platform for i) the conduct of regional activities/workshops which are based on the research priorities and capacity building needs of partners, and ii) sharing of innovative solutions and challenges that can enhance national responses to infectious diseases (in collaboration with relevant WHO programmes and departments)

2. Training and capacity building for IR: Activities that can address identified gaps and capacity building needs will be conducted to build local capacity and provide mentorship for the conduct of IR projects that generate data on the implementation and scale-up of digital solutions across the four global health challenges.

3. Technical and financial support for the introduction and scale up of digital solutions and evaluating and documenting the effectiveness, feasibility, and acceptability through IR

4. Development of research packages/toolkits to 'democratise' the scientific process and enable users to build skills and self-sufficiency in IR as related to digital solutions

5. Collaborative approach with involving WHO departments across the 3 levels, key funders for infectious diseases and key national and international NGOs/researchers.

Approach to ensure quality:

- Careful interactive development of the workplan of the full project and risk assessment - Careful selection of key partners - Close collaboration with National Disease control programmes and relevant WHO deparments and close monitoring of progress

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ER Objectives

ERObj-0069 : To support the generation of evidence on digital health technologies that can inform the introduction, implementation and scale up of these tools across TDR strategic health priorities by national disease control programmes

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Biennium Budget

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 120 000	USD 250 000
Designated funds	USD 120 000	USD 300 000
Total	USD 240 000	USD 550 000

Planned Budget

Undesignated funds	USD 105 000
Designated funds	USD
Total	USD 105 000

ER Biennium Risks

Biennium: 2026-2027

ERRisk - 0348: Insufficient engagement of national disease control programmes

Actions To Mitigate Risk: Development of communication strategy to build and maintain ongoing interaction of partners

Mitigation Status:

ER Biennium Outputs

Biennium: 2026-2027

EROutp-0428: Completion of two IR projects initiated in 2024-25 on the use of digital technologies. At least one new IR project on the use of digital technologies initiated (three new studies initiated for US$ 50 million scenario)

Output Indicator: Local evidence generated on the use of digital tools across the four global health challenges

Output Target Date: 31/12/2027

Output Progress Status:

Output Progress Description:

ER Biennium Outcomes

Biennium: 2026-2027

EROutc-0142: Guidelines, policy decisions and or practice on digital tools informed by TDR outputs

Progress made towards outcome :

ER Project Links

ER Country Links

Expected Result: 1.3.10

Title: Urban health interventions for the prevention and control of vector-borne and other infectious diseases of poverty

Strategic Work Area: Research for implementation

Workstream: Research for delivery and access

ER type: Continuing

Funding type: UD

Start date: 01/01/2020

End date: 31/12/2027

ER status: On Track

Comment: 2 new research projects have been selected through a competitive process in the second quarter of 2025.

WHO region: Global

Partners: Research teams from Paraguay- Programa Nacional de Control de Tuberculosis - Ministerio de Salud Pública y Bienestar Social (National Tuberculosis Programme).

A research team from Universidad Peruana Cayetano Heredia, Peru

Diseases: Vector-borne diseases;Not Disease-Specific

Review mechanism: Scientific working group and ad hoc expert reviewers

ER manager: Mariam OTMANI DEL BARRIO

Team: Mariam Otmani

Number of people working on projects: 16

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: All partners are State-actors for now

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	
Roles complimentary:	Yes	The complementary roles of the partners have been established.
Coordination transparent:	Yes	

Visibility:	Yes	Visibility of TDR has increased due to dissemination activities with national and international stakeholders (e.g: MOH, DOHS, academia, UN organisations, civil societies and local communities).

Objectives and results chain

Approach to ensure uptake:	Evidence generated will be shared globally through publications in open access, peer reviewed journals. The results will also inform the development of brief, actionable context-sensitive information briefs for policy and practice. Local decision-makers will be part of the community engagement strategy in the implementation phase. In addition to oversight by an expert committee, quality assurance mechanisms include fact checking, peer review of concept paper, technical and copy editing.
Up-take/Use Indicator:	Increased national, regional and international attention triggered through research results; number of reports and publications generated; number of meetings with decision-makers at local level.
Gender and geographic equity:	Sex parity and geographic diversity will be ensured when establishing external review panels, convening meetings of experts, issuing contracts, and in general within all of our collaborations. Intersectional gender analysis will be applied and tools facilitated by the TDR team for local researchers to ensure disaggregated data.
Publication plan:	The 2 new research projects plan to publish papers resulting from their projects in open access, peer reviewed journals and develop a couple of evidence briefs for policy recommendations.
Up-take/use indicator target date:	31/12/2027

Sustainable Development Goals

Gender Equality;Reduced Inequality;Sustainable Cities and Communities

Concept and approach

Rationale:

Urban health is influenced by several factors, including governance, population features, urban planning and socioeconomic development and health services, among others, which in turn have major implications for social and environmental determinants of health. Vector-borne diseases, whose agents (parasites, viruses etc) are transmitted by insect vectors such as mosquitoes, flies and triatomine bugs, occur in more than 100 countries worldwide and affect about half of the world's population. The incidence and distribution of infectious diseases is consequently influenced by social, demographic and environmental factors that interact under a changing climate and affect pathogen transmission patterns, especially increasing risk of infection in urban areas. Accurate, consistent and evidence-based interventions for prevention and control of infectious diseases of poverty in urban settings are urgently needed to implement cost- effective public health policy and to promote inclusive, equitable and sustainable urban health systems and services. Understanding the social dynamics, including the gender dynamics that take place in the urban context, is needed to address bottlenecks in the implementation of effective interventions and strategies and to better understand the differentiated impacts of infectious diseases on various population subgroups and how gender intersects with other social stratifiers to better understand different experience of disease.

Health outcomes in urban areas are not uniform, they are deeply influenced by gender. Women, men, and non-binary individuals may experience the urban environment differently, with varying levels of exposure to health risks and access to resources. Urban areas present unique health challenges that are often influenced by complex gender dynamics, as well as social and environmental determinants of health such as income, housing, and employment conditions. Addressing these challenges requires a nuanced understanding of how gender intersects with other social stratifiers in urban health settings. Addressing bottlenecks and barriers to effective implementation of health interventions in these contexts requires precise evidence and understanding of how and why such intersections take place and which bottlenecks impact health outcomes.

The influence of gender on the effectiveness of implementation strategies is a critical consideration. Factors such as socioeconomic status, education, and employment significantly impact how health interventions are received, accepted, and implemented. Understanding how gender intersects with other social determinants of health, under specific power systems and urban structures, allows us to understand the way implementation strategies work and how these can ensure equitable delivery and access so that health interventions address the unique needs of different urban groups and subgroups of population.

TDR has a history of supporting research on the impact of gender dynamics and inequalities that influence prevention and control efforts of infectious diseases of poverty in LMICs, including in urban settings. Based on identified research gaps from previous work, a research priority setting exercise was conducted in the last quarter of 2024 with global experts, which informed TDR's research agenda on urban health, infectious disease and gender research. Aligning with TDR's research agenda, in the first quarter of 2025, a call for proposals was published from which 2 research teams from Peru and Paraguay have been selected. Research teams are starting their projects in December 2025, and results are expected by end of the 26/27 biennium.

Design and methodology:

This ER is designed to conduct urban health research with an intersectional gender lens, within infectious diseases of poverty using concrete qualitative and quantitative research methodologies. All the research studies are aligned with TDR overall Strategy and its complimentary TDR strategy on intersectional gender research which focuses on strengthening research capacities on intersectional gender analysis in research on infectious diseases, generating evidence on gender intersecting inequalities in access to health services, supporting intersectional gender analysis in research for implementation and promoting an inclusive infectious disease research agenda. TDR's toolkit on intersectional gender analysis in research on infectious diseases of poverty is often used as a reference during the study design process.

Approach to ensure quality:

Continuous engagement with various ministries, policy makers, relevant stakeholders (civil societies, local communities, academia, non- governmental organisations) and public health services at all stages of the research cycle/ project implementation.

ER Objectives

ERObj-0014 : To generate new knowledge and evidence generated on effectiveness of interventions to prevent and control vector-borne diseases by addressing socioeconomic determinants in health in urban settings

ERObj-0059 : 2024/2025 To generate new knowledge and evidence to prevent and control vector-borne diseases by addressing socioeconomic determinants in health in urban settings

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Biennium Budget

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 150 000	USD 250 000
Designated funds	USD 100 000	USD 200 000
Total	USD 250 000	USD 450 000

Planned Budget

Undesignated funds	USD 165 000
Designated funds	USD
Total	USD 165 000

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario

Undesignated funds	USD 125 000	USD 350 000
Designated funds	USD 150 000	USD 400 000
Total	USD 275 000	USD 750 000

Planned Budget

Undesignated funds	USD 110 000
Designated funds	USD 150 000
Total	USD 260 000

ER Biennium Risks

Biennium: 2024-2025

ERRisk - 0272: Weak capacities at country level to effectively apply an intersectional gender approach in the research processes.

Actions To Mitigate Risk: Ensuring interdisciplinary teams, with social scientists and biomedical scientists and entomologists

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0341: Weak capacities at country level to effectively apply an intersectional gender approach in the research processes.

Actions To Mitigate Risk: Ensuring interdisciplinary teams, with social scientists and biomedical scientists and entomologists

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2024-2025

EROutp-0341: Number of research studies implemented following findings resulting from the systematic evidence reviews conducted in the previous biennium

Output Indicator: Evidence informed policy and practice at urban level.

Output Target Date: 30/11/2025

Output Progress Status: On Track

Output Progress Description: This output has not started yet, it is for 24/25 and so at planning stages. By end of 2025, 2 research studies following research from systematic reviews conducted in previous biennium (3 under 50M Scenario).

Biennium: 2026-2027

EROutp-0421: Number of research studies implemented following findings resulting from the systematic evidence reviews conducted in the previous biennium (Target: Two research studies in urban or peri urban settings, four for the US$ 50 million scenario)

Output Indicator: Evidence generated to inform policy and practice on control of infectious diseases in urban settings in low- and middle-income countries with an intersectional gender lens.

Output Target Date: 30/11/2027

Output Progress Status: On Track

Output Progress Description: In the first quarter of 2025, TDR published a call for proposals 'Implementation Research to address infectious diseases of poverty in urban and peri-urban settings with an intersectional gender lens'. This call aligned with the TDR Strategy 2024-2029 and aimed to strengthen an intersectional gender lens in implementation research in urban health which will contribute to the implementation of TDR's Intersectional Gender Research Strategy. The primary research funded through this call will contribute to a deeper understanding of the application of an intersectional gender approach in infectious disease research and address evidence gaps in urban health, ultimately leading to more accessible and equitable health interventions and policies. This research will be critical in developing data-driven, context-specific solutions that can be implemented in urban settings.

Experts on gender and intersectionality had to be identified to be a part of the scientific review committee. 11 applications were shortlisted and shared with the scientific committee members who reviewed, scored and selected the top 2 applications from Peru and Paraguay.

ER Biennium Outcomes

Biennium: 2024-2025

EROutc-0089: Evidence generated to inform policy and practice on control of infectious diseases in urban settings in low- and middle-income countries with an intersectional gender lens

Progress made towards outcome : Both the study teams in India and Bangladesh completed the systematic reviews in 2023 and undertook various activities to disseminate the results from such reviews, including stakeholders meeting at national levels. Following the results of the systematic reviews, we see the need to identify and prioritize research areas that address the most pressing and impactful questions in the context of urban health issues and the diverse needs of urban and peri urban populations. We are conducting a research priority setting exercise, which includes a virtual consultation with global and regional experts. The aim of this consultationis to present identified research gaps following the systematic literature reviews recently completed and identify additional research areasthat address critical gaps for the delivery of effective urban health interventions and strategies with an intersectional gender perspective. Furthermore, the exercise will consider the principles of implementation science to ensure that the identified research priorities can be effectively translated into actionable policies and effective delivery of interventions, particularly in emergency and epidemic contexts/scenarios. We expect to achieve two outcomes from this exercise: 1. A consensus-driven list of research priorities through the systematic identification of implementation research gaps in the field of urban health and infectious diseases from an intersectional gender lens. 2. A comprehensive Research Agenda to inform TDR's subsequent call for research proposals and strategic pathway in the area of urban health, gender and implementation research. The primary research funded through this call will contribute to a deeper understanding of the application of an intersectional gender approach in infectious disease research and address evidence gaps in urban health, ultimately leading to more accessible and equitable health interventions and policies. This research will be critical in developing data-driven, context-specific solutions that can be implemented in urban settings.

Biennium: 2026-2027

EROutc-0145: Evidence informed policy and practice at urban level.

Progress made towards outcome : A research team from Universidad Peruana Cayetano Heredia, Peru is conducting a study entitled 'Disease situations of tuberculosis (TB) and HIV among trans and cis women sex workers in downtown Lima, Peru'. Their main objective is to understand how social and spatial situatedness of trans and cis women sex workers intersect with (a) specific urban configurations present in Lima city and (b) social stratifiers (such as gender identity, migratory status, age, and work conditions) to generate and enhance risks and responses to TB and HIV in this population. This interdisciplinary study plans to use in-depth ethnographic and urban analysis to understand the emergence of TB/HIV disease situations in this population and area. Qualitative methods (semi-structured interviews and participant observation) will be used to apply an intersectional gender lens, as they enable a deeper understanding of lived experiences and how gendered power relations interact with spatial conditions and other social stratifiers. Another research team from Paraguay Programa Nacional de Control de Tuberculosis - Ministerio de Salud Pública y Bienestar Social (National Tuberculosis Programme), is conducting a study entitled 'An Intersectional Gender Approach in Urban and Peri-urban Environments for Equitable Health Access for People with Tuberculosis'. Their main objective is to analyze the barriers and facilitators in accessing health services for tuberculosis in urban and peri-urban areas of Paraguay, using a gender and intersectional approach. The study design is observational, analytical, mixed (qualitative and quantitative), focused on analyzing the intersections between gender and other social variables in accessing health services for tuberculosis diagnosis, treatment, and treatment adherence. After their selection, both the research teams have developed their study protocols, study instruments and relevant documents (informed consent forms, participant information sheets etc) with technical support from TDR. Currently, both have recieved ethics approval from their local ethical review committes (ERC) and are in the process for recieving ethical approval from WHO ERC. By end of 2025, 2 both research teams will have begun data collection and conducted research activities as planned.

ER Project Links

P25-01607: Disease situations of tuberculosis (TB) and HIV among trans and cis women sex workers in Downtown Lima, Peru	**PI Name :** KARLA SOLARI PEREZ **Project Start Date :** 10/03/2025 **Project End Date :** 10/03/2026
P25-01606: An Intersectional Gender Approach in Urban and Peri-urban Environments for Equitable Health Access for People with Tuberculosis	**PI Name :** Angelica Medina **Project Start Date :** 01/03/2025 **Project End Date :** 28/02/2026
P23-00989: Survey activities to explore gender-dimensions of Water, Sanitation, and Hygiene, and Soil-Transmitted Helminth infection among urban poor children and pregnant women in Odisha, India	**PI Name :** Sanghamitra Pati **Project Start Date :** 15/06/2023 **Project End Date :** 31/12/2023
P22-00718: Consultant - Gender and infectious disease research and its operationalization in Low and Middle-Income Countries (LMICs)	**PI Name :** Chandani Kharel **Project Start Date :** 15/08/2022 **Project End Date :** 15/11/2024
P22-00707: Workshop and dissemination activities following systematic literature reviews and related activities to understand the social determinants of health and identifying effective community-based interventions to prevent and control infectious diseases	**PI Name :** Sohana Shafique **Project Start Date :** 15/07/2022 **Project End Date :** 31/10/2023
P22-00706: Workshop and dissemination activities following systematic literature reviews and related activities to understand gender related aspects in	**PI Name :** Sanghamitra Pati **Project Start Date :** 15/07/2022

infectious disease epidemiology, prevention and control, including gender-based violence	**Project End Date :** 31/01/2023
P21-00316: Open access - Unpredictability and risks of health systems disruptions due to the impact of climate change on vectors and vector-borne diseases	**PI Name :** Joanne Brown **Project Start Date :** **Project End Date :**
P20-00116: Literature reviews and research gap analysis on social determinants of urban health: how social and gender dynamics in a COVID- 19 context affect the prevention and control of infectious diseases of poverty	**PI Name :** Sanghamitra Pati **Project Start Date :** 17/02/2021 **Project End Date :** 31/03/2022
P20-00115: Understanding the social determinants of health and identifying effective community-based interventions to prevent and control infectious diseases during COVID-19 pandemic in urban informal settlements in low and middle income countries: an evidence gap a	**PI Name :** Sohana Shafique **Project Start Date :** 14/01/2021 **Project End Date :** 31/03/2022

ER Country Links

Expected Result: 1.3.12

Title: Strategies to promote gender-responsive health interventions on prevention and control of infectious diseases of poverty

Strategic Work Area: Research for implementation
Workstream: Research for delivery and access
ER type: Continuing
Funding type: UD
Start date: 01/01/2018
End date: 31/12/2027
ER status: On Track
Comment:
WHO region: Global
Partners: Research teams in Bangladesh, Ethiopia, India, Iran, South Africa, Philippines; MOH, CSO etc
Diseases: Vector-borne diseases;Not Disease-Specific
Review mechanism: Scientific working group plus ad hoc review group(s) dealing with specific calls

ER manager: Mariam OTMANI DEL BARRIO
Team: Christine Halleux
Number of people working on projects: 15

FENSA clearance obtained for all Non-State Actors? No
Justification for no FENSA clearance: Not applicable

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Completed
Roles complimentary:	Yes	The complementary roles of the partners have been established.
Coordination transparent:	Yes	Completed
Visibility:	Yes	Visibility of TDR has increased due to dissemination activities with national and international stakeholders (e.g: MOH, DOHS, academia, UN organisations, civil societies and local communities).Also publications in peer reviewed journal.

Objectives and results chain

Approach to ensure uptake:	Continuous engagement with various ministries, policy makers, relevant stakeholders (civil societies, local communities, academia, non- governmental organisations) and public health services at all stages of the research cycle/ project implementation.
Up-take/Use Indicator:	Consultative meetings/ dissemination workshops with ministry officials, including MoH, health departments and relevant stakeholders (civil societies, local communities, academia, non- governmental organisations).
Gender and geographic equity:	Sex parity and geographic diversity will be ensured when establishing external review panels, convening meetings of experts, issuing contracts, and in general within all of our collaborations.
Publication plan:	2 articles has been published in 2025 and 4 manuscripts are currently under review in different peer reviewed journals. 7 draft manuscripts are being developed by the research teams and planned to be submitted to open access, peer review journals.
Up-take/use indicator target date:	31/12/2025

Sustainable Development Goals

Good Health and Well-being;Gender Equality;Reduced Inequality

Concept and approach

Rationale:	Great progress has been made towards combatting infectious diseases of poverty (IDPs). However, considerable public health challenges remain, including gender and intersecting inequalities that affect health conditions associated with infectious diseases. This ER focuses on gender intersecting inequalities that influence differentials in vulnerability to, and the impact of, particular health conditions associated with infectious diseases in low- and middle-income countries. This expected result recognizes that gender norms, roles and relations influence people's susceptibility to different health conditions and they also have a bearing on people's access to and uptake of health services, and on the health outcomes they experience throughout the life-course. It also acknowledges that WHO has recently recognized the importance of being sensitive to different identities that do not necessarily fit into binary male or female sex categories. In this context, delivery and access to prevention and control approaches and products to prevent and control infectious diseases should not be one-size-fits all but instead should benefit from approaches that take into account the complex interaction of several social stratifiers, and their influence in health outcomes. There is growing recognition that gender roles, gender identity, gender relations, apart from institutionalized gender inequality influence the way in which an implementation strategy works (e.g. for whom, how and why). There is also emerging evidence that programmes may operate differently within and across sexes, gender identities and other intersectional characteristics under different circumstances and contexts. Research should inform implementation strategies to avoid ignoring gender-related dynamics that influence if and how an implementation strategy works. Therefore scientists, including those focusing on research for implementation, would benefit from adequately considering sex and gender intersecting social dimensions within their research programmes, by strengthening both the practice and science of implementation, and by contributing to improved health outcomes and reduction of gender and health inequalities.
Design and methodology:	This ER is designed to conduct implementation research incorporating an intersectional gender approach aligned with TDRs Strategic Global Health Challenges, particularly on climate change and resistance to treatment and control agents, focusing on infectious diseases of poverty using concrete qualitative and quantitative research methodologies. All the research studies are also aligned with TDR's intersectional gender research strategy which focuses on strengthening research capacities on intersectional gender analysis in research on infectious diseases, generating evidence on gender and intersecting inequalities in access to health services, supporting intersectional gender analysis in research for implementation and promoting an inclusive infectious disease research agenda. TDR's toolkit on intersectional gender analysis in research on infectious

diseases of poverty is often used as a reference and methodological guidance material during the study design and implementation process.

Approach to ensure quality: Oversight by expert committee and quality assurance through fact checking, peer review of documentation, technical assessment and advice.

ER Objectives

ERObj-0017 : Strengthen research capacities and provide innovative tools to generate evidence that informs the design and implementation of gender responsive health interventions to control and prevent infectious diseases of poverty.

ERObj-0050 : from 2021: Utilize research capacities and innovative tools built to generate evidence that informs the design and implementation of gender responsive health interventions to control and prevent infectious diseases of poverty.

ERObj-0060 : 2024/2025 Strengthen implementation research capacities that incorporate intersectional gender analyses within their projects and generate evidence that informs the design and implementation of gender responsive health interventions to control and prevent infectious diseases of poverty with an intersectional gender lens.

Biennium Budget

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 300 000	USD 500 000
Designated funds	USD 100 000	USD 200 000
Total	USD 400 000	USD 700 000

Planned Budget

Undesignated funds	USD 372 000
Designated funds	USD

Total	USD 372 000

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 245 000	USD 450 000
Designated funds	USD 300 000	USD 350 000
Total	USD 545 000	USD 800 000

Planned Budget

Undesignated funds	USD 200 000
Designated funds	USD 300 000
Total	USD 500 000

ER Biennium Risks

Biennium: 2024-2025

ERRisk - 0273: Knowledge translation outcomes on gender equality are usually beyond the control or influence of projects. Research teams working in silos with limited collaboration between biomedical and social science communities.

Actions To Mitigate Risk: Continuous engagement with relevant stakeholders and policy makers to make evidence informed decisions based on evidence generated from the research conducted by the research teams adopting an intersectional gender lens.

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0342: Knowledge translation outcomes on gender equality are usually beyond the control or influence of projects. Research teams working in silos with limited collaboration between biomedical and social science communities.

Actions To Mitigate Risk: Continuous engagement with relevant stakeholders and policy makers to make evidence informed decisions based on evidence generated from the research conducted by the research teams adopting an intersectional gender lens.

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2024-2025

EROutp-0342: Implementation Research Studies and Research uptake initiatives

Output Indicator: New knowledge & evidence generated from intersectional gender analyses in IR to address marginalization & disadvantages in access to health systems and services, health impacts, prevention/control of IDPs.

Output Target Date: 31/12/2026

Output Progress Status: On Track

Output Progress Description: This activity is ongoing for the 24/25 biennium and beyond. By the end of 2025 two to four research studies and two to four research uptake initiatives (6 under 50M Scenario).In 2024, of 2 IR projects on gender, intersectionality and infectious diseases, 1 project in Ethiopia has been completed whereas data collection has been completed with data analysis ongoing in the second project in Bangladesh. 3 research teams from India, Philippines and South Africa have completed systematic reviews on gender, intersectionality, climate change and anti-microbial resistance (AMR).

A. In the last quarter of 2023, TDR launched a call for applicants from LMICs entitled 'on gender, antimicrobial resistance (AMR) and climate change threat to human health in the context of infectious diseases of poverty'. The aim of this call was to strengthen an intersectional gender lens in implementation research to contribute to the implementation of TDR's Intersectional Gender Research Strategy. Four research teams from India, Philippines, South Africa and Iran were competitively selected to conduct systematic reviews of existing evidence and research gap analysis on gender and related intersectional inequities associated with antimicrobial resistance (AMR) and climate variability and change. Three project teams have completed the systematic reviews, conducted stakeholder mapping, analysed the findings to identify research gaps and held multiple rounds of stakeholder consultations in their respective countries (5 in India, 3 in Philippines and 3 in South Africa).

Key gaps uncovered:

- There is very little work on interaction of AMR and climate, and even less when considering gender and other social determinants of health.
- Most articles consider sex but have missed the opportunity to analyze and produce sex disaggregated data.
- There is a need to sensitize people to understand the term 'gender' as disparities found between authors with conflation of terminologies related to sex, gender and gender identity.
- There exists a paucity of resources for researchers to conduct intersectional gender analysis. Hence, training of researchers to build their capacity to conduct intersectional gender analysis is required.
- Most of the studies have a positivist, quantitative approach and miss the qualitative approach to understand the depth of the problem.
- Baseline knowledge about AMR, climate change, gender and its impact on health is very low.

Key recommendations:

- Need more advocacy to generate interest to understand the interactions AMR, climate change, gender and its impact on health and healthcare. Provide capacity enhancement opportunities for policy makers and researchers to understand these complex interactions.
- Foster cross-sector collaborative partnerships between specialists working on climate, AMR and gender within ministries and institutions.
- Advocacy for the use of the intersectional gender lens in research within current and future research agenda is required.
- Start collecting disaggregated data considering sex and other social stratifiers for all surveillance systems, including for AMR.
- Promote Gender-Sensitive Adaptation Strategies in climate change adaptation and mitigation policies to ensure equitable health outcomes.

Following the results generated from the systematic reviews, TDR launched a call in July 2024 for applicants from low- or middle-income country (LMICs) to conduct implementation research studies to generate evidence that helps to identify enablers and bottlenecks that impact the delivery of health interventions in the face of two major global health threats; climate variability and change and resistance to treatment and control agents, including but beyond antibiotic resistance, such as insecticidal resistance. This call contributes to the implementation of TDR's Intersectional gender research strategy (https://tdr.who.int/publications/i/item/2020-06-05-tdr-intersectional-gender-research-strategy). Out of the 30 proposals received, 2 will be selected through a competitive process. The research which is expected to start from October 2024, will last for 18 months and the results are expected by 2027.

B. In 2022, TDR launched a call for proposals for 'Implementation research and gender: A contribution to implement TDR's Intersectional Gender Research Strategy'. Two research teams from Bangladesh and Ethiopia were selected.

1. In Bangladesh, the study entitled 'Facilitators and Barriers of management of Multidrug Resistant Tuberculosis in Bangladesh: An Implementation Research through Gender Lens' received ethics approval in 2023 and is being conducted by BRAC James P. Grant School of Public Health, BRAC University. The objective of this implementation research is to generate evidence to identify the enablers and bottlenecks that impact the delivery of current management of multidrug-resistant tuberculosis (MDR-TB) in Bangladesh and see how gender intersects with other social variables influenced by specific contextual and structural determinants potentially leading to different gendered experiences and thus gender inequality.

This mixed method study conducted at five tertiary specialised TB hospitals across the country employed quantitative (record review from hospital and TB registry, household and phone surveys) and qualitative (document review, in-depth interviews (IDI), key informant interviews (KII), focus group discussion (FGD) and observation) methods. Till date, data collection has been completed (shown in Table below) and analysis is ongoing.

2. In Ethiopia, the 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 also started in 2023 following ethics approval from WHO. This study aimed to examine intersecting gender inequalities and underlying factors influencing malaria vulnerabilities, care-seeking behaviors, and access to and uptake of preventive and curative services.

This mixed-method sequential study conducted in two urban and four rural areas from two malaria-endemic districts of Jimma zone, Ethiopia involved qualitative (11 FGDs, 12 KIIs, and nominal group discussions (NGDs) and quantitative (desk reviews, review of malaria surveillance data from 2018-2023, household survey with 2,198 respondents) data collection.

The findings below reveal substantial gender inequalities in malaria burden, treatment access, and preventive practices, shaped by social roles, age, marital status, poverty, and geographical location.

Finding 1: Social Roles and Activities Social expectations and roles assigned to men and women significantly contribute to gender inequalities in malaria risk and morbidity. Men are more likely to engage in outdoor activities that increase exposure to malaria.

- Gender differences in malaria risk reveal that males are more prone to exposure due to their engagement in outdoor and nocturnal activities such as farming, security work, and staying awake late or waking up early (Male Mean Score: 19.6/23 vs. Female: 18.5/23, F=39.9, P<0.05). Conversely, females exhibit slightly higher vulnerability during early waking hours (7.17/8 vs. 6.82/8 for males, p-value <0.05). These activities often coincide with peak mosquito biting times, increasing malaria exposure among males. Contributing to male vulnerability are factors like improper use of insecticide-treated nets (ITNs), which are less available or utilized by night-shift workers or security personnel. This heightened exposure contributes to more severe malaria cases and poorer treatment outcomes among males. In contrast, females, despite

facing delays in seeking treatment due to their household roles and lower decision-making autonomy, tend to have better treatment outcomes upon hospitalization.

Finding 2: Healthcare Seeking Behavior

- Men are more likely to seek treatment for uncomplicated malaria early, whereas women tend to seek care at later, more complicated stages due to household responsibilities and decision-making dynamics. Despite presenting later, women experience better treatment outcomes.

- More males (16.4%) report fever and malaria compared to females (13.6%) ($p < 0.05$), with DHIS-2 data confirming higher male malaria cases (54.9%) from 2018 to 2023. Rural men (46.7%) are more likely to seek early treatment within 24 hours compared to rural women (44.5%). Young boys (<5 years) exhibit better timely care-seeking (60.3%) than adults (37.7%), with a 7.7% higher rate favoring males. Men typically access local health facilities due to control over resources, resulting in shorter hospital stays (57.9% < 3 days) but poorer treatment outcomes (12.7% referral/death). Conversely, females delay care, managing household duties until illness worsens, leading to hospitalizations for complicated malaria (62.0%), yet with higher recovery rates (90.7%). men are more likely to seek early treatment from local clinics, while women prefer public health facilities. These findings underscore gender-specific challenges in malaria prevention and treatment access.

Finding 3: Inequalities in malaria preventive service uptake were present between males and females-making the women more adherent to preventive services (ITNs) that are already within their control or accessible.

- ITN utilization by sex, age, and education: More females (54.6% versus 50.6%, X2=19.23, p-value <0.05) slept under ITN than males in the same household and were more adherent to using preventive services. Age (Adult) and education (attended secondary school) were found to intersect with sex (females) in the utilization of ITN.

- Malaria services that do not account for sex-specific risks and social gender norms worsen transmission among men.

Finding 4: Sex-disparities are observed in knowledge about malaria.

- Men have higher knowledge about malaria due to greater access to broadcast media. Women, despite community communication opportunities, have less access to such media and thus less knowledge.

- Rural, educated men aged 25-44 years exhibit greater knowledge compared to urban, less educated women over 65 years. Men benefit more from broadcast media exposure (Male=288, Female=185, $p < 0.001$), contributing to their higher knowledge. Despite similar community communication opportunities, rural males surpass urban females in malaria knowledge by 5.2%.

Finding 5: Intersectional Inequalities

- Gender inequalities in malaria burden and service access intersect with other social factors like occupation, age, education, and residence. Adult men have higher malaria cases, while adult women experience more complications but better recovery outcomes. Access to ITNs and malaria knowledge varies significantly by age, education, and location.

Finding 6: Resource Control and Decision-Making

- Men's higher control over resources and decision-making results in earlier treatment seeking. Women often require approval from male family members to seek care, affecting their health outcomes. Men's lack of approval of the women's sickness, the required financial expenses, and travel time and place determined women's health outcome including complications. This is especially true in rural areas where traditional norms are stronger.

Based on the results and consultations with relevant stakeholders (Malaria program personnel at all levels (MOH, Zonal Health Offices, WHOs), frontline malaria service providers, malaria program partners, gender and health focal persons, policy makers, researchers, community advisory groups), following policy implications and recommendations are suggested:

1. For National Malaria Prevention and Control Programs:

Revise policies, strategies, and routine data analysis to ensure gender-equitable services.

Develop a clear roadmap for integrating gender-responsive strategies into national malaria control policies, outlining objectives, timelines, and responsibilities.

Program implementers should incorporate intersectional gender dimensions during resource mobilization and distribution to ensure gender-equitable services, considering specific needs and contextual gender norms.

Promote multi-sectoral collaboration for malaria prevention.

Strengthen capacity of program personnel on gender dimensions, providing skills for delivering locally tailored social and behavior change communication (SBCC) to address gender inequalities.

Create training manuals tailored for malaria program focal points, coordinators, and implementers to lead gender-responsive activities and foster societal shifts towards gender equality in malaria interventions.

Design and deliver training on gender mainstreaming in malaria for healthcare providers, program managers, and policy makers.

2. Strengthening Gender and Health Units:

Strengthen gender units within health departments to plan, implement, and evaluate gender-responsive activities.

Strengthen reporting mechanisms to incorporated gender and intersectionality indicators during data collection.

Promote regular gender analysis of DHIS-2 and hospital data to support investigations and planning.

3. Community engagement:

Co-design culturally sensitive interventions and social policies with community leaders, women's groups, and youth organizations.

Develop social and behavior change communication (SBCC) materials and strategies that integrate gender dimensions into malaria elimination efforts.

Allocate adequate financial, temporal, human, and material resources to support SBCC, community dialogues, and the delivery of gender-equitable services.

4. Workplace Malaria Protection:

Enhance protective services for individuals at occupational risk, ensuring institutions provide necessary items like ITNs and repellents.

C. In 2021, two projects were selected following a TDR Call for Proposals on ‘Generating evidence to strengthen intersectionality and gender research efforts in infectious disease prevention and control’. Awards were given to a research team in Bhutan and a multi-country consortium with research teams from Kenya, Malawi and South Africa. Both the projects have been completed and research teams are currently developing manuscripts to be submitted to peer reviewed journals.

Project 1 from Bhutan: ‘Studying the intersections of sex and gender dimensions with other social stratifies in accessing TB & Dengue health care services of Transgender Men, Transgender Women, MSM, WSW in Bhutan’.

Project 2 from Africa Consortium: "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 study in Migori County, Kenya and Chikwawa district in southern Malawi focused on gender and intersectionality in disease exposure, care seeking behaviour and treatment pathways in malaria prevention and control.

The study in Eastern Cape Province, South Africa conducted gender and intersectionality analysis of Tuberculosis pre-treatment loss to follow up.

Biennium: 2026-2027

EROutp-0425: Implementation Research Studies and Research uptake initiatives (Target: Two studies focusing on AMR, climate and gender to inform implementation research objectives and research uptake initiatives (with four each for the US$ 50 million scenario).

Output Indicator: New knowledge & evidence generated from intersectional gender analyses in IR to address marginalization & disadvantages in access to health systems and services, health impacts, prevention/control of IDPs.

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: TDR launched a call in July 2024 for applicants from low- or middle-income country (LMICs) to conduct implementation research studies to generate evidence that helps to identify enablers and bottlenecks that impact the delivery of health interventions in the face of two major global health threats; climate variability and change and resistance to treatment and control agents, including but beyond antibiotic resistance, such as insecticidal resistance. Teams should address gender, sex, and their intersections with associated inequities in infectious diseases focusing on anti microbial resistance and climate change. This call contributes to the implementation of TDR's Intersectional gender research strategy (https://tdr.who.int/publications/i/item/2020-06-05-tdr-intersectional-gender-research-strategy).

Out of the 30 proposals received, 2 from Mumbai,India and Cape Town, South Africa have been selected through a competitive process. The scientific review committee comprised of global experts on gender and intersectionality, climate change and AMR. Data collection is expected to begin in the last quarter of 2025. The project is planned for 18 months. The evidence generated is expected to inform national health policies and TDR's research and programmes, which in turn may also influence future implementation research, policy and practice. Continues into next biennium 2026/27.

i) The research team from D Y Patil School of Public health, Mumbai's study entitled 'Mapping climate variability and infectious disease hotspots: A gendered and intersectional vulnerability study of the Mumbai Metropolitan Region (MMR), India' aims to build an evidence-based participatory climate adaptation model for the city of Mumbai. The objectives are:

- To empirically estimate and predict the effect of climate variability on infectious diseases in the coastal areas of the Mumbai Metropolitan Region (MMR).
- To understand the gendered and intersectional vulnerabilities and adaptation strategies in response to climate variabilities at the community and household levels among identified climate and infectious disease hotspots (flood, submergence & landslide prone and susceptible to high precipitation) in Mumbai Metropolitan Region (MMR).
- To identify knowledge gaps and preparedness to address climate change exigencies with a focus on infectious diseases among key stakeholders (city planners, public health departments, civil society groups, CBOs, women and youth).
- To propose health adaptation implementation strategies that are gender transformative, people-centric and climate-resilient.

The research team have got ethical clearance from the local ethical review committee (ERC) and from WHO ERC. The research is expected to start from October 2025, will last for 18 months and the results are expected by 2027.

ii) The research team from University of Cape town, South Africa are going to conduct a study entitled 'Mapping and responding to the social determinants of health, climate, and environment in drug-resistant infections of poverty through a gendered intersectional lens in peri-urban community settings'. The primary aim is to understand the intersection of the social determinants of health, climate, and environment with drug-resistant infections of poverty in peri-urban community settings. This mixed-methods study will include a desktop policy review about the

existing national policies in South Africa (upper middle income) and India (lower middle income) on Gender Equity, drug-resistant infections, AMR (National Action Plan), and Climate to understand to what extent current policies are considering the gendered intersectional impact on different populations in society and where there are gaps.

Stakeholder consultations will be done to identify the best mechanisms to translate evidence generated from this research to practice (for example: develop a toolkit for advocacy and a policy brief to influence practice in this field).

The research team have got ethical clearance from the local ethical review committee (ERC) and are awaiting approval from WHO ERC. The research is expected to start from October 2025, will last for 18 months and the results are expected by 2027.

Biennium: 2026-2027

EROutp-0426: Implementation Research Studies and Research uptake initiatives

Output Indicator: New knowledge & evidence generated from intersectional gender analyses in IR to address marginalization & disadvantages in access to health systems and services, health impacts, prevention/control of IDPs.

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: This activity is ongoing for the 24/25 biennium and beyond. By the end of 2025 two research studies and five research uptake initiatives are planned.

3 research teams from India (PROPUL Evidence), Philippines (Alliance for Improving Health Outcomes, Inc.) and South Africa (University of Cape Town) have completed systematic reviews on gender, intersectionality, climate change and anti-microbial resistance (AMR).

i)Propul Evidence from India conducted 2 separate systematic reviews on AMR and climate change under their project entitled 'Intersecting Vulnerabilities: Investigating Gender Antimicrobial Resistance and Climate Change Influences on Infectious Disease Dynamics among Marginalized Populations in LMICs'. This multi-phase study began with systematic reviews to uncover gaps in existing research regarding climate change, AMR, and gender-based health outcomes. This was followed by developement of a detailed framework which was used to conduct a detailed gap analysis to categorize and prioritize research needs. Multiple rounds of expert consultations were held to refine and validate findings and formulate actionable policy recommendations based on the evidence gathered.

Key findings highlighted that existing research often neglects the diverse spectrum of gender identities and the intersectionality of social determinants such as age, ethnicity, and socioeconomic status. There is a critical need for improving healthcare access and quality, particularly in marginalized communities. Public awareness campaigns must be inclusive, addressing the specific vulnerabilities and preventive measures related to diverse gender identities and intersecting factors. Policies must integrate intersectional analysis to effectively address the compounded impacts of climate change and AMR.

The expert consultations resulted in actionable recommendations for policymakers and researchers. For policymakers, the study recommended developing policies that explicitly consider intersecting vulnerabilities, strengthening healthcare systems to provide gender- sensitive services, promoting inclusive policies that address the needs of all gender identities and marginalized groups, and enhancing public awareness through inclusive health campaigns. For researchers, the study advised conducting intersectional research using comprehensive methodologies, focusing on the interplay of gender and social determinants, expanding the disease focus to investigate a broader range of infectious diseases and their interplay with AMR, and engaging local communities in research design and implementation to ensure cultural relevance and acceptance.

ii) The team from Philippines conducted a three phased study focusing on AMR entitled 'Gender and other social inequities associated with antimicrobial resistance (AMR) in the Philippines: a scoping review and research gap analysis from a health policy and systems research and intersectional gender perspective'. The first phase conducted a scoping review that described and analyzed the current state of evidence on AMR with respect to gender and its intersection with other social stratifiers in the experience of antimicrobial resistance (AMR) in the Philippines. The second phase conducted stakeholder mapping based on existing databases from institutions and organizations involved in the Philippine National Action Plan for AMR. This database was reviewed and supplemented with other reputable organizations and institutions in the Philippines. This was also supplemented from institutions that were frequently linked to authors of identified studies in the scoping review.

Lastly, a consultative research gap analysis was conducted with representatives of selected institutions that were identified in the stakeholder mapping.

While some interactions between AMR, sex, gender, and social factors were found, large gaps in evidence remain. This is due to several factors, but include sole emphasis on human health with no attention paid to animal and environmental health, the predominant use of sex as a binary construct, and the novelty of the approach to many stakeholders.

Key research recommendations to bridge the research gaps identified are:

- Surveillance and epidemiology is a key research gap, which can be addressed by inclusion of sex disaggregation and disaggregation by occupations in the Philippine's Antimicrobial Resistance Surveillance Program. The Research agenda of the AMR action plan should also include more studies with explicit inclusion of a gender lens, for studies on AMR risk, KAP, antibiotic use patterns, health seeking behavior, healthcare access, treatment adherence. This may need greater emphasis on research methods that can address gaps in knowledge such as power relations, beliefs, experience of stigma which require an understanding of social phenomena and context. For this, a more diverse approach to research and utilization of mixed-methods may be appropriate. Research on agriculture and the environment will also be needed. There is a need for more studies with a gender lens on antimicrobial use and infection and control practices in the agricultural sector, including gender differences in animal husbandry practices, AMR surveillance, drug dispensing patterns, and wastewater treatment. This will be relevant too for Health Security Research.

- Multi-sectoral collaboration, enhancing stakeholder engagement and capacity building will be needed to conduct this research. Existing networks such as the Philippine One Health University Network and the Inter-Agency Committee on Antimicrobial Resistance can be leveraged to share knowledge, opportunities, and resources.

- End user engagement should be ensured for research conducted. Researchers should identify and engage those that could utilize research findings such as policymakers, implementers, and health care providers. This can be done from the start of the research process. This will help ensure that research answers relevant questions and improve likelihood of the uptake of results to better inform policy, programs, and other interventions.

- Research translation activities will likewise be needed. New information and findings from research on AMR and gender can be incorporated into the Philippine National Action Plan on AMR during its regular updates. Gender and other social determinants affecting AMR should be considered in the policy and program agenda. Research results should also be communicated in appropriate, clear, and accessible formats tailored to specific target audiences such as policymakers, program implementers, health service providers, and the general public.

iii)The research team from South Africa conducted a systematic review to look at the impact of gender, climate and social determinants of health on antimicrobial resistance (AMR) in Low- and middle-income countries (LMICs) under their project entitled "Investigating the intersection of gender and other sociocultural determinants of health and antimicrobial resistance in a changing climate: A mixed methods study in South Africa and India". To gain a sense of organisations, including academic, civil society, governmental and funder, working in AMR, climate and gender, and the intersections therein, a stakeholder map was produced followed by multiple stakeholder consultations in various parts of India and South Africa.

This systematic review uncovered a major gap in evidence for how gender impacts AMR under a changing climate, and how gender intersects with other social determinants of health to influence access to WASH, living conditions and access to healthcare. The work further revealed the lack of evidence in how gender intersects with other social stratifiers to impact perspectives, behaviours and access to healthcare for AMR, as well as a lack of multisectoral capacity to address AMR in a changing climate. Interestingly, this systematic review also revealed similarities in how people make decisions when faced by major stressors such as climate change or AMR. Moreover published perspectives uncovered in this systematic review suggest that policy-making towards AMR and climate change share similar challenges, and there may be complementary governance and policy structures to address both challenges that centre on equitable preservation of public goods.

The major lack of primary data as uncovered in this systematic review highlights the need for high-quality evidence is how social determinants intersect with health, social wellbeing, and how changes in climate may impact WASH, infection practices and antibiotic use. Using an intersectional framework to understand these issues would facilitate a greater understanding of how social determinants intersect with health, social wellbeing, and how climate change is impacting WASH, infection practices and antibiotic use.

As a result of the systematic reviews conducted in 3 countries, 6 manuscripts have been developed of which 1 has been published, 3 have been submitted to journals and 2 are in the final stages for journal submission.

In the first quarter of 2025, 2 IR projects on gender, intersectionality and infectious diseases, in Ethiopia and Bangladesh have been completed. One research manuscript has been submitted to Malaria Journal whereas 3 manuscripts are being prepared for submission to journals.

The study entitled 'Facilitators and Barriers of management of Multidrug Resistant Tuberculosis in Bangladesh: An Implementation Research through Gender Lens' was conducted by BRAC James P. Grant School of Public Health, Bangladesh. The objective of this implementation research was to generate evidence to identify the enablers and bottlenecks that impact the delivery of current management of multidrug-resistant tuberculosis (MDR-TB) in Bangladesh and see how gender intersects with other social variables influenced by specific contextual and structural determinants potentially leading to different gendered experiences and thus gender inequality. The research with an embedded mixed-method design, was conducted conducted at five tertiary specialised TB hospitals across the country which offer MDR-TB treatment and the community. Data collection included a household survey with 478 MDR-TB patients, in depth interviews with 64 participants (34 patients and 34 caregivers), 73 key informant interviews (KIIs) with relevant stakeholders, facility managers, and health care providers and 11 focus group discussions (FGDs) with community people. The KIIs explored the fidelity of the MDR-TB care intervention and helped to understand what and why changes have been made during implementation and whether these changes were acceptable or not.

The five domains (Innovation, Outer setting, Inner setting, Individuals, Implementation process) of the Consolidated Framework for Implementation Research (CFIR 2.0) was used to describe the findings. Univariate (frequency and percentages) and bivariate analysis (chi-square test) were conducted for quantitative analysis. For qualitative analysis, thematic analysis was performed.

The findings show that gender roles and expectations had the most impact on recovery from MDR-TB. Gender roles and expectations, compounded with infrastructural and logistic challenges, affected implementation and uptake of MDR TB treatment. Compared to males, female patients had worse physical and mental health consequences when not allowed to receive treatment at the hospital or have adequate support to carry out domestic responsibilities. In addition, stigma, financial constraints, inadequate infrastructure, and poor hospital conditions limited positive experiences. Positive counseling and allyship was found to encourage hospital stay.

Future interventions and policies should consider gender norms, practices, and relations in their approaches. A family-centered approach should be taken to ensure patients suffering from MDR-TB can access and complete care for it. This would include counseling the patient and the family members about the treatment regime, its importance in facilitating recovery and reducing transmission. The session could include inquiring about the support system a patient may or may not have, based on which the health providers could advise the best possible way of supporting the patient. Recommendations to improve hospitals regarding hygiene, access to clean water and putting strict infection prevention measures in place to prevent infection especially to children who visit sick mothers daily or accompany mothers to take care of sick family members.

ER Biennium Outcomes

Biennium: 2024-2025

EROutc-0090: Strengthened implementation research capacities that incorporate intersectional gender analyses within their projects and generated evidence to strengthen equitable health systems and inform the design and implementation of gender responsive health interventions to control and prevent infectious diseases of poverty with an intersectional gender lens.

Progress made towards outcome : This is ongoing for the 24/25 biennium and into the 26/27 biennium. Capacity strengthening activities included embedded research training through the supported projects and provision of online courses for increased knowledge on the concepts of gender and intersectionality: As integration of sex and gender considerations into health research is critical to achieving gender equality and health equity, TDR in collaboration with the UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP) developed and launched a 'Sex and gender in health research' virtual resource hub. This resource hub is a curated repository of resources to strengthen researchers' capacity to consider sex, gender, and their intersections with other

axes of inequality and discrimination throughout the research cascade, from conception to design, data collection, analysis, interpretation and reporting. This inventory includes toolkits, guides, research articles, training and audio-visual materials that are readily available in English, French, Portuguese and Spanish. The resources are categorized by type of resource, intended audience, topics covered and creators/developers. It is available online at https://genderinhealthresearch.org/ In June 2022, TDR launched a new module of the Massive Open Online Course (MOOC) on Incorporating an intersectional gender perspective in implementation research. The content was developed in collaboration with TDR's research capacity strengthening unit. Till date, the course has been offered X times and X have enrolled in the course. This course is facilitated by the University of Ghana. A module on gender entitled 'Integrating an intersectional gender lens in Implementation Research' gender for TDR's implementation Research Toolkit' was updated in the second edition of the IR toolkit in collaboration with TDR's research capacity strengthening unit in 2022. It is available online at https://www.adphealth.org/irtoolkit/intersectional-gender-lens/.

Biennium: 2026-2027

EROutc-0149: Strengthened implementation research capacities that incorporate intersectional gender analyses within their projects and generated evidence to strengthen equitable health systems and inform the design and implementation of gender responsive health interventions to control and prevent infectious diseases of poverty with an intersectional gender lens.

Progress made towards outcome : Capacity strengthening activities included embedded research training through the supported projects and provision of online courses for increased knowledge on the concepts of gender and intersectionality: In June 2022, TDR launched a new module of the Massive Open Online Course (MOOC) on Incorporating an intersectional gender perspective in implementation research. The content was developed in collaboration with TDR's research capacity strengthening unit. The fifth session is scheduled on October 2025 and the course is facilitated by the University of Ghana. This is ongoing for the 24/25 biennium and into the 26/27 biennium.

ER Project Links

P25-01730: Support TDR Intersectional gender research studies and social science products	**PI Name :** Abigail Mier **Project Start Date :** 17/11/2025 **Project End Date :** 30/12/2025
P24-01511: Support TDR with the implementation of Equity component of TDR Strategy and TDR Intersectional gender research strategy - 2025	**PI Name :** Abigail Mier **Project Start Date :** 15/01/2025 **Project End Date :** 15/06/2025
P22-00718: Consultant - Gender and infectious disease research and its operationalization in Low and Middle-Income Countries (LMICs)	**PI Name :** Chandani Kharel **Project Start Date :** 15/08/2022 **Project End Date :** 15/11/2024
P22-00614: Production and diffusion of 1 additional course module for the TDR IR MOOC Module on gender	**PI Name :** Annechien Helsdingen **Project Start Date :** 21/03/2022 **Project End Date :** 30/11/2022
P21-00360: Consultant for landscape analysis, joint SDF on VBDs and pockets of poverty	**PI Name :** Nabil Haddad **Project Start Date :** 01/07/2021 **Project End Date :** 30/11/2021
P20-00106: An assessment of Gender and intersectionality in disease exposure, care seeking behaviour and treatment pathways in Malaria and Tuberculosis prevention and control in Kenya, South	**PI Name :** Salome R. A. Bukachi **Project Start Date :** 01/03/2021 **Project End Date :** 31/10/2023

Africa and Malawi.

P20-00105: Studying the intersection of sex and gender and other social stratifiers to understand marginalization and disadvantaged (MSM, TG, and other sexual orientations in access to health services and interventions in regards to TB in Bhutan

PI Name : Tshokey Tshokey
Project Start Date : 07/01/2021
Project End Date : 31/10/2023

ER Country Links

Expected Result: 1.3.14

Title: Testing of innovative strategies for vector control

Strategic Work Area: Research for implementation

Workstream: Research for innovation

ER type:	Continuing	**Funding type:**	UD and DF
Start date:	01/01/2020	**End date:**	31/12/2027
ER status:	On Track	**Comment:**	After delays in the start of the ER, the contract with CDC for funding this activity was signed and the work on the research project has now well started. Other supporting activities are also well on track.

WHO region: Global

Partners: WHO/NTD; the International Atomic Energy Agency (IAEA); the US CDC Fort Collins

Diseases: Arboviral diseases;Chikungunya;Dengue;Neglected Tropical Diseases;Vector-borne diseases;Zika virus

Review mechanism: Through ad hoc expert review groups approved by TDR senior management, and through TDR advisory bodies, including the scientific working groups, STAC and JCB

ER manager: Florence FOUQUE

Team: Florence Fouque, Mary, Maier, Abdul Masoudi

Number of people working on projects: 50

FENSA clearance obtained for all Non-State Actors? No

Justification for no FENSA clearance: The FENSA clearance will be submitted for the NSA partners as we start raising the contract with the research teams.

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Partnership well in place and objectives aligned with the respective strategies of the partners
Roles complimentary:	Yes	The complementary roles of the partners is established through the Grant Agreement between WHO and CDC, as follow: CDC the funder also provides technical support, TDR coordinates and manages the research projects

Coordination transparent:	Yes	The coordination mechanism is transparent and follow the rules of the partners.
Visibility:	Yes	The visibility of the partnership is achieved through the communication offices of all partners.

Objectives and results chain

Approach to ensure uptake: To ensure the uptake of the findings and their application into countries, the different activities performed through this ER are involving since the planning stage the relevant stakeholders. The partners of the ER, namely US-CDC, IAEA and NTD/WHO also have their own channels to provide recommendations to countries based on the findings.

Up-take/Use Indicator: The main indicator for uptake will be the number of countries in which innovative vector control activities or tools have been tested and/or will be used. Other uptake indicators can include number of countries where vector surveillance and control tools are improved through knew knowledge acquired during the development of this ER, as well as number of countries showing clear reduction in targeted mosquito vector populations and diseases transmission. Further dissemination will be made through scientific publications, flyers, technical documents, presentations within countries and at international events and advocacy pieces.

Gender and geographic equity: Gender and geographical equities are taken into account in all activities among which the building of the ad hoc review groups, the consultancies and in the selection criteria of the research teams. The outcomes and outputs of the projects will benefit to populations from LMICs some of them belonging to vulnerable and very poor populations. The impact of the innovation will affect equally all gender in respect to some arboviral diseases such as dengue and chikungunya, but will also have a stronger impact on the pregnant women and their babies affected by Zika virus.

Publication plan: Published:

Gato R, Menéndez Z, Rodríguez M, Gutiérrez-Bugallo G, Del Carmen Marquetti M. Advancing the art of mosquito control: the journey of the sterile insect technique against Aedes aegypti in Cuba. Infect Dis Poverty. 2024 Aug 29;13(1):61. doi: 10.1186/s40249-024-01224-1. PMID: 39198869; PMCID: PMC11360771.

Accepted:

Jérémy Bouyer. Current status of the Sterile Insect Technique against mosquitoes at the world scale. Infect Dis Poverty. 2024

Submitted:

Dheerasinghe D. S. A. F., Cader M., Hapugoda M., Samaraweera S., Amarasekera J. Case Study: Dengue Epidemiology and Programme for Dengue Control in Sri Lanka: current and future options for integrated vector control. Infect Dis Poverty. 2024

Wasi Ahmad Nazni, Guat-Ney Teoh, Mohd Adnan Nuradila, Shaikh Ismail Shaikh Norman Hakimi, Maheswaran Tanusshni, Mohd Azam Muhammad Arif, Achim Nurfarahin Hanini, Irfan Ahmad Shazia, Aik-Meng Tan, Hamzah Rabizah, Mohamad Dzomir Ahmad Zainuri, Asim Hasnor Hadi, Ahmad Norazah, Han-Lim Lee, Hamidou Maiga, Jeremy Bouyer, Yoon-Ling Cheong. Assessing the Impact of Sterile Ae. aegypti Males Releases on Vector Population Dynamics: Insights from Malaysian Field Trials. Infect Dis Poverty. 2024

Joel Aik, Hamidou Maiga, Florence Fouque, Jérémy Bouyer, Hannah E Clapham. Assessing the epidemiological impact of SIT and IIT mosquito technology interventions: Study design considerations for policymakers. Infect Dis Poverty. 2024

Arya Rahul, Daniel Reegan, A N Shriram, Manju Rahi. Advancements and Gaps in Epidemiological Trials of Sterile Insect Technique (SIT) for Enhanced Control of Aedes Mosquitoes: A Scoping Review. Infect Dis Poverty. 2024

Nicole Foley, Florence Fouque, Qingxia Zhong, Herve Bossin, Jeremy Bouyer, Raman Velayudhan, Randall Nett, Anna Drexler. Building capacity for testing Sterile Insect Technique (SIT) against Aedes-borne diseases in the Pacific: a training workshop and launch of SIT trials against Aedes aegypti and arboviral diseases. Infect Dis Poverty. 2024

Up-take/use indicator target date: 31/12/2025

Sustainable Development Goals

Good Health and Well-being;Industry, Innovation and Infrastructure;Climate Action;Partnerships to achieve the Goal

Concept and approach

Rationale:

Causing more than one million deaths per year, with few new drugs or strategies to combat these emerging infectious pathogens, vector-borne diseases (VBDs) such as malaria, dengue, Zika, chikungunya, yellow fever and others account for 17% of the total morbidity from infectious diseases. The incidence of some VBDs has grown dramatically in recent decades, with about one third of the world population now at risk from *Aedes*-borne epidemics. This increase is due to global changes and has prompted WHO to state the urgent need for alternative vector control methods in its Global vector control response (GVCR) 2017–2030, which was approved at the World Health Assembly in 2017 by more than 190 Member States (WHO 2017).

The rationale of this expected results is to work with all partners to test innovative vector surveillance and control technologies, as well as to support access to relevant training and capacity building on these technologies:

One of these alternative technologies is the "Sterile Insect Technique" (SIT) a method of pest control using area-wide releases of sterile males to mate with wild females, which will then not produce offspring. This technique has been successfully implemented in agriculture against numerous insects since about 60 years, with no side effects and environmentally safe impact.

1)As a first step, a joint collaboration was established between the Department of Nuclear Sciences and Applications (NA), the Department of Technical Cooperation (TC) of the International Atomic Energy Agency (IAEA), and the UNICEF/UNDP/World Bank/ WHO Special Programme for Research and Training in Tropical Diseases (TDR) of the World Health Organization (WHO), in partnership with the WHO Department of Control of Neglected Tropical Diseases (NTD), to develop activities on providing guidance to countries and testing SIT against the *Aedes* mosquitoes, vectors of arboviral diseases.

2) The second step on the SIT testing was to raise funds to support LMICs countries to test SIT against diseases and this was achieved through the contract with US CDC for testing SIT in 2 to 3 Pacific countries. The testing is currently ongoing.

3) **The development and testing of other related tools will also be supported through this activity such as capacity building tools and vector surveillance tools**, to be able to provide a full package of innovative technologies for prevention and control of vectors and vector-borne diseases.

Design and methodology:

Design and Methodology for testing the Sterile Insect Technology, which are the core activities of this ER are described below through key activities and timelines. The methods include :

- Phase 1: January 2019 to April 2020: Development and Production of a Guidance Document on how to test SIT for countries
- Phase 2: July 2019 to December 2021: Resource mobilization, buildings of ad hoc review committees and Special Project Team, call for proposals and selection of research consortium(s) to test SIT into field conditions. Landscape analysis for new vector control technologies. Development of training and surveillance tools.
- Phase 3: January 2022 to June 2024: Update of proposals, contracts and development of the rearing facilities as well as laboratory testing necessary such the irradiation dose, sterile male competitiveness and others. Presentation of the technologie to the WHO Vector Control Advisory Group for evaluation.

- Phase 4: July 2024 to December 2025: Field testing of the technology with release of sterile males and epidemiological evaluation. Presentation of the results to the WHO VCAG and if satisfactory implementation of the results, policy recommendations and deployment of this new vector control technology at the country level.

Further activities such as the organization of training workshop on relevant items will be supported to improve capacity in countries to implement these new technologies of vector control.

Approach to ensure quality:

The following approaches were taken to ensure quality of the expected results:

1. The objectives, planning, activities and budget of the ER is aligned with TDR strategy and was approved by TDR governing bodies.
2. The groups of experts were invited based on their competencies and experience and approved as per TDR SoPs. All experts accepting to be part of a group completed their DOIs and COIs.
3. The Guidance Document was developed in phase 1 by a group of experts, with external and internal reviews, external editing, final check and WHO publication clearance system.
4. For the selection and following up of research proposals in phase 2, review and steering groups of external experts were established and approved accordingly.
5. The quality of the findings in phase 3 is reviewed by the selected experts groups through mid-term reports and published in open access peer review scientific journals.
6. The quality of the findings in phase 4 is reviewed by the selected experts groups through mid-term and final reports, published in open access peer review scientific journals, and submitted to the Vector Control Advisory Group (VCAG) of the WHO operational program (NTD/WHO) for policies development.

ER Objectives

ERObj-0018 : 1. Provide to countries and stakeholders up to date guidance on how to test new vector control technologies through different materials such as guidance document, training materials, workshop and in site evaluations.

ERObj-0019 : 2. Support research activities to test into field conditions the entomological outcomes of new vector control technologies.

ERObj-0020 : 3. Support research activities to test into field conditions the epidemiological outcomes of new vector control technologies.

ERObj-0021 : 4. Develop indicators to evaluate the impact on the vectors populations, the human health and the health systems of innovative vector control technology.

ERObj-0022 : 5. Provide to the WHO operational programs and the countries the required support to make new recommendations and policies on innovative vector control technologies, and allow full deployment of new validated vector control tools.

ERObj-0056 : 6. Provide to countries the knowledge and guidance on new vector surveillance tools needed for the implementation of the new vector control tools.

ERObj-0057 : 7. Provide to countries the required tools to improve training and capacity building on innovative vector surveillance and control.

Biennium Budget

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 200 000	USD 300 000
Designated funds	USD 700 000	USD 1 350 000
Total	USD 900 000	USD 1 650 000

Planned Budget

Undesignated funds	USD 215 000
Designated funds	USD 186 828
Total	USD 401 828

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 165 000	USD 270 000
Designated funds	USD 800 000	USD 1 200 000
Total	USD 965 000	USD 1 470 000

Planned Budget

Undesignated funds	USD 80 000
Designated funds	USD 800 000

Total	USD 880 000

ER Biennium Risks

Biennium: 2024-2025

ERRisk - 0310: The completion of all required tests SIT not completed before the end of the biennium

Actions To Mitigate Risk: Close follow up on the testing activities and engagement with the research team to mitigate the deadlines

Mitigation Status: On Track

Biennium: 2024-2025

ERRisk - 0311: Delays in building capacity for the countries in implementing the technology once the SIT efficiency on the diseases is proven.

Actions To Mitigate Risk: Development of training packages through MOOC or other materials

Mitigation Status: Completed

Biennium: 2026-2027

ERRisk - 0331: Insufficient funding

Actions To Mitigate Risk: Raise awareness of potential donors; continue close collaboration with current donor(s)

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0332: Delays in the recognition of the efficiency of the methods, due to the uncertainty on VCAG (WHO vector Control Advisory Group) continuation

Actions To Mitigate Risk: Identification of alternative way for WGO recognition of new vector control technology, linking with new team to present SIT results

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0333: Delays in building capacity for the countries in implementing the technology once the SIT efficiency on the diseases is proven.

Actions To Mitigate Risk: Development of training packages through MOOC or other materials

Mitigation Status: Planning phase

ER Biennium Outputs

Biennium: 2024-2025

EROutp-0381: Document for guiding SIT implementation in countries and development of a training course (MOOC).

Output Indicator: Procedure for implementing SIT and integrating the technique into the vector control activities

Output Target Date: 31/10/2025

Output Progress Status: On Track

Output Progress Description: The writing of the document has started and will be completed as the field testing is progressing. The MOOC will be started by early 2025.

Biennium: 2024-2025

EROutp-0382: Procedures for evaluation developed and made available

Output Indicator: Evaluation of the vector control activities using SIT for prevention and control of arboviral diseases transmission

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description:

Biennium: 2026-2027

EROutp-0414: SIT technology against Aedes mosquitoes and arboviral diseases presented at the WHO Vector Control Advisory Group for advise and review [1 for 40m], [1 for 50m]

Output Indicator: Generate field evidence on SIT for prevention and control of arboviral diseases transmission

Output Target Date: 31/10/2026

Output Progress Status: On Hold

Output Progress Description: First SIT releases started in the field and data collection of entomological and epidemiological data ongoing, but the WHO VCAG has been dismantled.

Biennium: 2026-2027

EROutp-0455: Number of training materials produced [2 for 40m], [3 for 50m]

Output Indicator: Generate training materials on SIT

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: Not started yet

ER Biennium Outcomes

Biennium: 2024-2025

EROutc-0115: SIT technology against Aedes mosquitoes and arboviral diseases presented at the WHO Vector Control Advisory Group for advise and review

Progress made towards outcome : First presentation to VCAG in September 2023, with recommendations addressed by the research team in the second year of the project proposal. Second presentation to VCAG planned for September 2025.

Biennium: 2024-2025

EROutc-0116: Countries integrating the SIT into the integrated Vector control against Aedes mosquitoes and arboviral diseases.

Progress made towards outcome : Two countries from the Pacific Region will be testing SIT in 2025 and 2026: French Polynesia and Cook Islands. Further countries already interested both in the Pacific and American Regions.

Biennium: 2026-2027

EROutc-0141: Guidelines, policy decisions and recommendations on vector control in low- and middle-income countries informed by TDR outputs

Progress made towards outcome : TDR outputs on track

ER Project Links

P25-01640: Integrated vector management with the sterile insect technique component for the suppression of Aedes aegypti in an urban setting in Indonesia.	**PI Name :** Author Billing Team **Project Start Date :** 16/07/2025 **Project End Date :** 31/08/2025
P25-01563: L'implémentation d'une étude préliminaire de faisabilité du transfert de l'approche Malakit développée en Guyane au contexte du Sénégal	**PI Name :** Aliou Thiongane **Project Start Date :** 20/03/2025 **Project End Date :** 31/12/2025
P24-01392: Consultant TDR - vector control, multi sectoral approach and country preparedness	**PI Name :** Gildas Yahouedo **Project Start Date :** 01/10/2024 **Project End Date :** 12/09/2025
P24-01320: Fourth West African Aedes Surveillance Network (WAASUN) Meeting Strengthening the	**PI Name :** SAMUEL DADZIE **Project Start Date :** 03/06/2024

capacity of West African countries to control arboviral diseases

Project End Date : 31/08/2024

P24-01299: Technical support for the finalization of SIT documentations including the Landscape Analysis for SIT within other vector control tools, the assessment of Caribbean capacities to test SIT against Aedes-borne diseases and the proceedings of the second Work

PI Name : Eleonora Flacio
Project Start Date : 05/05/2024
Project End Date : 31/10/2025

P24-01288: Special issue for Publications of articles from the presentations delivered at the TDR Sterile Insect Technology Workshop, held 2 to 6 Mau 2023 in Papeete, French Polynesia.

PI Name : Maggie Zhang
Project Start Date : 01/05/2024
Project End Date : 31/12/2024

P23-00985: PAcific Islands Consortium for the Evaluation of Aedes SIT (PAC-SIT).

PI Name : Herve Bossin
Project Start Date : 15/06/2023
Project End Date : 31/12/2023

P23-00983: Development of a Best Practices document for mosquito control in build areas.

PI Name : Sandra Gewehr
Project Start Date : 30/05/2023
Project End Date : 31/12/2023

P23-00960: Development of The Terms of References for Centres of Reference in Medical Entomology Through the organization of a side-event at the 18th International Course on Dengue and other emerging Arboviruses. August 14-25, 2023 IPK, Havana, Cuba, in partnership

PI Name : Chris Rixson
Project Start Date : 01/05/2023
Project End Date : 30/10/2023

P22-00725: Support to Capacity Building in Medical Entomology through the attendance to the First Edition of the Curso Internacional de Control Integrado de Vectores at Instituto Pedro Kouri, Cuba.

PI Name : Maria Guadalupe Guzman
Project Start Date : 29/08/2022
Project End Date : 31/10/2022

P21-00432: Special issue on data on vector to share data for SIT

PI Name : Scott C. Edmunds
Project Start Date : 01/10/2021
Project End Date : 31/12/2021

P21-00284: Development of a landscape analysis of the potential innovative vector control tools including SIT, which are still at the development or testing phases with analysis of benefit/risks and comparative advantages and challenges.

PI Name : Gildas Yahouedo
Project Start Date : 16/05/2021
Project End Date : 31/12/2021

ER Country Links

WHO Region : AFRO **Country:** Benin **World Bank Income Group :** Lower middle income

WHO Region :	AMRO	**Country:**	Mexico	**World Bank Income Group :**	Upper middle income
WHO Region :	AMRO	**Country:**	Brazil	**World Bank Income Group :**	Upper middle income
WHO Region :	AMRO	**Country:**	Cuba	**World Bank Income Group :**	Upper middle income
WHO Region :	AMRO	**Country:**	Chile	**World Bank Income Group :**	High income
WHO Region :	EURO	**Country:**	Switzerland	**World Bank Income Group :**	High income
WHO Region :	EURO	**Country:**	United Kingdom	**World Bank Income Group :**	High income
WHO Region :	NULL	**Country:**	French Polynesia	**World Bank Income Group :**	High income
WHO Region :	WPRO	**Country:**	Cook Islands	**World Bank Income Group :**	n/a

Expected Result: 1.3.15

Title: VBD prevention and control for vulnerable and hard to reach population

Strategic Work Area: Research for implementation

Workstream: Research for integrated approaches

ER type: Continuing

Funding type: UD and DF

Start date: 01/01/2024

End date: 31/12/2027

ER status: On Track

Comment: Activities started in 2022 through Strategic Development Funds in 2022

WHO region: Global

Partners: WASH/WHO, NTD/WHO, CDC China, AFRO, PAHO

Diseases: Arboviral diseases;Malaria;Vector-borne diseases

Review mechanism: Through Ad Hoc Committee of experts and TDR SWG

ER manager: Florence FOUQUE

Team: Florence Fouque, Mary, Maier, Abdul Masoudi, Mariam Otmani

Number of people working on projects: 25

FENSA clearance obtained for all Non-State Actors? Yes

Justification for no FENSA clearance: Obtained when applicable

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	Yes	Build strengths:	Yes
Reduce burden:	Yes	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	Partnership aligned
Roles complimentary:	Yes	Technical and geographical complementarity of the partners
Coordination transparent:	Yes	Coordination transparent through shared Teams folders
Visibility:	Yes	Visibility through joined workshops

Objectives and results chain

Approach to ensure uptake:	To ensure uptake of findings for more adequate tools and better access of the vulnerable populations to VBDs prevention and control, partnership will be established with stakeholders and communities and research and capacity building activities will be essential component of the ER.
Up-take/Use Indicator:	Document published on definition and factors of vulnerability. Number of countries hosting vulnerable populations having better information and access to VBDs prevention and control.
Gender and geographic equity:	Gender and geographical equity will be addressed and based on vulnerabilities according to the contexts.
Publication plan:	Documents on relationship between poverty and VBDs (on track). Document on vulnerabilities (definition and factors). Scientific publications
Up-take/use indicator target date:	31/12/2027

Sustainable Development Goals

No Poverty;Good Health and Well-being;Clean Water and Sanitation;Reduced Inequality;Partnerships to achieve the Goal

Concept and approach

Rationale:

Although there has been tremendous progress in the control of vector-borne diseases (VBDs), these diseases together with other infectious diseases are still causing enormous burden, especially to the more vulnerable populations already facing several challenges such as poverty and displacements. The complex interconnection between different socio-economic aspects and the determinants of health and vulnerability to VBDs require further extensive attention.

The proposed activity will address the challenges linked to vulnerabilities in VBD prevention and control through the following objectives:

1) **Better understand the relationships between VBDs and vulnerabilities** from poverty, mobility, and other social determinants.

2) **Investigate through case studies the vulnerabilities and which solutions can be implemented for VBDs** prevention and control.

3) **Address vulnerabilities through effective intervention and strategies** that can reach the underserved populations in LMICs in order to accelerate universal health coverage.

The project is aiming to develop knowledge and skills base and demonstrate how access to health care for vulnerable, hard-to-reach and underserved populations can be improved.

Design and methodology:

The first phase of the project will focus on definitions and factors of vulnerabilities in a range of different situation including but not limited to hard to reach populations, migrants, displaced population either for political unrest or climatic changes.

Based on the findings, the project will convey group(s) of experts to develop strategies to increase health care access and improve health outcomes according to context and specificities of the populations.

In a second phase of the project, approaches and strategies will be tested through case studies. The lessons learned from these interventions will then provide the basis for a good practice document for reaching the more vulnerable population and giving them better access to health.

Ultimately, the project will engage and empower communities, develop implementation research leadership capacity in local institutions and promote uptake of research findings into policy and practice in countries.

Approach to ensure quality:

Quality of the activities and project will be ensure through regular review process of activities, documentation and implementation.

The review will be performed at different level of the project and of the TDR structure by external experts, committees and representatives of Member States.

ER Objectives

ERObj-0065 : Document the definition and factors of vulnerabilities to deploy the adequate intervention for prevention and control of VBDs.

ERObj-0070 : Implement innovative approaches and tools to prevent and control VBDs in the most vulnerable

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Biennium Budget

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 200 000	USD 500 000
Designated funds	USD 200 000	USD 300 000
Total	USD 400 000	USD 800 000

Planned Budget

Undesignated funds	USD 310 000
Designated funds	USD 24 236
Total	USD 334 236

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 165 000	USD 350 000
Designated funds	USD 150 000	USD 400 000
Total	USD 315 000	USD 750 000

Planned Budget

Undesignated funds	USD 65 000
Designated funds	USD 150 000
Total	USD 215 000

ER Biennium Risks

Biennium: 2024-2025

ERRisk - 0318: Funding not raised for full activities

Actions To Mitigate Risk: Engagement with funders having specific targets on vulnerabilities

Mitigation Status: On Track

Biennium: 2024-2025

ERRisk - 0319: Delays in the implementation of the activities

Actions To Mitigate Risk: Close follow up of the activities

Mitigation Status: Completed

Biennium: 2026-2027

ERRisk - 0329: Insufficient funding raised

Actions To Mitigate Risk: Engagement with funders having specific targets on vulnerabilities

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0330: Activities cannot be fully implemented or delayed because of the situations international, regional, national, local)

Actions To Mitigate Risk: Close follow up of the activities within specific contexts

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2024-2025

EROutp-0391: Description of the factors with qualitative and quantitative analysis

Output Indicator: Guidance document on factors of vulnerabilities and handling/strategies to mitigate them on prevention and control of VBDs.

Output Target Date: 31/12/2024

Output Progress Status: Completed

Output Progress Description: The landscape analysis on the factors of vulnerability has been completed.

Biennium: 2024-2025

EROutp-0392: Number of participants to the workshop and number of countries attending the workshop

Output Indicator: Organization of a workshop and publication of scientific articles on vulnerabilities against VBDs.

Output Target Date: 31/12/2025

Output Progress Status: Completed

Output Progress Description: The workshop could not be organized because of shortage of funding, but scientific publications were released and are on track for three research projects on vulnerable populations:

1) Access to malaria diagnostic and treatment for hard to reach population which are the illegal gold miners in the Amazon forest. This project called malakit has been completed and results are in publication.

2) Access to better prevention and control of dengue in the biggest open dump of Brasilia through improved sanitation and waste management.

3) Study of feasibility to transfer the malakit approach to vulnerable and hard to reach populations also working in gold mining in Senegal.

Biennium: 2026-2027

EROutp-0413: Number of field studies to generate the evidence [2 for 40m], [4 for 50m]

Output Indicator: Generate evidence on factors and determinants for the prevention and control of VBDs in vulnerable and hard to reach populations.

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: One study contracted to be continued over the 2026-2027 biennium

Biennium: 2026-2027

EROutp-0456: Number of participants to the MSA MOOC, number of countries [over 200 participants, 10 countries for 40 m], [over 500 participants, 30 countries for 50 m]

Output Indicator: Implement training on multisectoral approaches (MSA) against VBDs through the TDR MOOC

Output Target Date: 31/12/2027

Output Progress Status: On Track

Output Progress Description: MSA MOOC launched in January 2025, already followed by hundreds of participants.

ER Biennium Outcomes

Biennium: 2024-2025

EROutc-0121: Better knowledge of the factors of vulnerability in prevention and control of VBDs

Progress made towards outcome : Collection of evidence is currently ongoing through two case studies one to study the relationships between VBDs and poverty has been completed and another research project for transfer of technologies to fight malaria in hard to reach populations is ongoing.

Biennium: 2024-2025

EROutc-0122: Improved access to VBDs prevention and control in vulnerable populations

Progress made towards outcome : Research is ongoing to provide the evidence needed to advance this outcome: the two case studies are currently on track

Biennium: 2026-2027

EROutc-0140: Guidelines, policy decisions and or practice to ensure improved access to VBDs prevention and control in vulnerable and hard to reach populations informed by TDR outputs

Progress made towards outcome : TDR outputs on track

ER Project Links

P25-01537: Technical and logistics support for the planning/organization/implementation of TDR-GBIF training workshop on data sharing on vectors to prevent and control vector-borne diseases.

PI Name : SAMUEL DADZIE
Project Start Date : 15/03/2025
Project End Date : 31/08/2025

P24-01472: The implementation of the Worldwide Insecticide resistance Network in South American (WINSA) for the surveillance and control of insecticide resistance in arthropod vectors of infectious diseases

PI Name : Vincent Corbel
Project Start Date : 20/12/2024
Project End Date : 30/11/2025

P24-01392: Consultant TDR - vector control, multi sectoral approach and country preparedness

PI Name : Gildas Yahouedo
Project Start Date : 01/10/2024
Project End Date : 12/09/2025

P24-01387: Support to training activity within the context of the research project entitled: Research Project entitled: Zika, Dengue and Chikungunya: multisectoral approach for developing solutions applicable in public health by exploring the link between Poverty

PI Name : Vanessa Cruvinel
Project Start Date : 25/09/2024
Project End Date : 31/03/2025

P24-01366: Technical and logistics support for the organization and implementation of An International Conference on Advances in Surveillance and Control Methods for Aedes-Borne Diseases and Urban Vectors affecting the most vulnerable.

PI Name : Emmanuel Kaindoa
Project Start Date : 26/08/2024
Project End Date : 31/10/2024

P24-01328: Development of Communication materials in relation with the TDR activities on hard-to-reach and vulnerable populations

PI Name : Thomas Scalway
Project Start Date : 15/06/2024
Project End Date : 31/10/2024

ER Country Links

Expected Result: 1.3.3

Title: Population health vulnerabilities to VBDs: Increasing resilience under climate change conditions (Operationalizing a One Health Approach for the Control of VBDs in the Context of Climate Change)

Strategic Work Area: Research for implementation
Workstream: Research for policy

ER type: Evolved
Funding type: UD

Start date: 01/01/2020
End date: 31/12/2027

ER status: On Track
Comment:

WHO region: AFRO

Partners: WHO-CCH, WHO-AFRO, WHO-NTD, Makerere University, University of Nairobi, Africa One Health University Network (AFROHUN), Ministry of Health-Uganda, Daktari NGO Spain, Institute Pasteur Dakar (IPD), Nigerian Institute of Medical Research (NIMR),

Diseases: Malaria;Rift valley fever;Schistosomiasis;Tuberculosis;Trypanosomiasis;Vector-borne diseases

Review mechanism: Through SWG, dedicated ad hoc group of external experts

ER manager: Corinne Simone Collette MERLE
Team: 1 Professional staff (P5), one consultant (0.4FTE) and 1 admin staff (Michelle Villasol)
Number of people working on projects: 46

FENSA clearance obtained for all Non-State Actors? Yes
Justification for no FENSA clearance:

TDR partnership criteria

Add value:	Yes	Use resources:	Yes
Align goals:	Yes	Address knowledge gaps:	Yes
Integrate mandates:	No	Build strengths:	Yes
Reduce burden:	No	Foster networking:	Yes
Increase visibility:	Yes		

TDR partnership criteria indicators

Objectives aligned:	Yes	The objectives of this programme are aligned with TDR strategy
Roles complimentary:	Yes	TDR partners add complementary value and contribution to achieving TDR strategy.
Coordination transparent:	Yes	Coordination with partners is above board and transparent.
Visibility:	Yes	Partners share similar goals as TDR, thus expanding TDR's visibility in the field.

Objectives and results chain

Approach to ensure uptake:

TDR and collaborating research institutions will conduct networking and policy-advice activities to promote the products generated from the research programme:

a) Translation and dissemination of the scientific knowledge, evidence and adaptation tools and strategies generated through partnership and networking (south-south and north-south). Project recipients will facilitate the transfer of research findings to various user groups including academics, policy-makers and the public through a range of means including via TDR, projects and partner websites. They will present the results in relevant fora and national dialogues and publish the results in scientific journals from the various disciplines of the investigators, as well as through interdisciplinary publication channels. TDR and collaborators will also produce scientific synthesis and research summaries on the research results;

b) Promotion of research-to-policy uptake of the research results by engaging in researcher, practitioner and policy dialogues at local and national levels through research-to-policy dialogue, policy documents, media, involving policy-makers in research meetings/workshops, implementation and evaluation of the projects, strategy events such as Community of Practice meetings and stakeholder consultations;

c) Enhancement of public awareness of climate change adaptation options by communicating research findings to communities, health officials and policy-makers through various means (including publications, feedback seminars, dissemination of scientific results to the general public, popularization of research findings by the media in collaboration with research institutions using films and other forms of documentation);

d) Promotion of intersectoral collaboration by integration of representatives of other sectors in the transdisciplinary research activities and in the research meeting process; and

e) Undertake monitoring and evaluation activities (internal and external M&E) to ensure that expected outputs and outcomes are achieved in line with project objectives. In collaboration with the researchers, TDR's communications team and IDRC, the results of the programme will be widely disseminated using various means.

The overall performance of the programme will be monitored and evaluated by TDR. In addition to the annual report, TDR activities are reported in the TDR newsletter and on its website.

Up-take/Use Indicator:

1. Increased national, regional and international attention triggered through research results; 2. Use of tools by African countries for increased resilience to VBD risks under climate change conditions; 3. Number and significance of events where decision-making by public health officials is a focus; 4. Number of reports, workshops, meetings, national fora and media popularization produced/organized; and 5. Evidence of impact of capacity built in research institutions and communities

Gender and geographic equity:

All proposals follow gender-sensitive approaches, with all research activities having an explicit gender perspective/framework and taking into account possible gender differentials in the epidemiology and transmission of VBDs and will, if possible and appropriate, define gender-sensitive approaches to the community-based adaptation strategies to reduce population health vulnerabilities. This perspective is further stressed in the call for proposals and during proposed training and workshops where the participation of women researchers is actively encouraged. Best approaches to engage women in programmes and activities aimed at climate change adaptation for health and reduced risk for VBDs will also be addressed.

The ration male to female is 3.18

Publication plan:

2025:

- Caminade C, Ayala D, de Chevigny T, Ngou O, Tchouatieu A, Girond F, Yahouedo GA, Merle CS, Pothin E, Diouf I, Hakizimana E, Noseda V, Deuve JL; NMCP consortium. - Yahouédo AG, Merle CS, Chanda E, Rabe IB, Fouque F, Rojas DP, Aseffa A, Halleux CM, Velayudhan R. Engaging communities in the control of arboviral diseases: insights from the African region. PLoS Negl Trop Dis. 2025 Jul 15;19(7):e0013300.

- Talla C, Diarra M, Diouf I, Thiam MS, Gaye A, Barry MA, Igumbor E, Merle CS, Audu R and Loucoubar C (2025) Impact of climatic factors on malaria in Senegal based on the surveillance system between 2015 and 2022. Front. Trop. Dis. 6:1631996. doi: 10.3389/fitd.2025.1631996

- Hugho, E.A.; Nagagi, Y.P.; Lyaruu, L.J.; Mosha, V.V.; Senyael, N.; Mwita, M.M.; Mabahi, R.W.; Temba, V.M.; Hebel, M.; Nyati, M.; et al. Inverted Patterns of Schistosomiasis and Fascioliasis and Risk Factors Among

Humans and Livestock in Northern Tanzania. Pathogens 2025, 14, 87. https://doi.org/10.3390/pathogens14010087

- Yahouédo AG, Merle CS, Chanda E, Rabe IB, Fouque F, Rojas DP, Aseffa A, Halleux CM, Velayudhan R. Engaging communities in the control of arboviral diseases: insights from the African region. PLoS Negl Trop Dis. 2025 Jul 15;19(7):e0013300.

- Talla C, Diarra M, Diouf I, Thiam MS, Gaye A, Barry MA, Igumbor E, Merle CS, Audu R and Loucoubar C (2025) Impact of climatic factors on malaria in Senegal based on the surveillance system between 2015 and 2022. Front. Trop. Dis. 6:1631996. doi: 10.3389/fitd.2025.1631996

2024: 6 posterClimate change and malaria control: a call to urgent action from Africa's frontlines. Malar J. 2025 Jun 6;24(1):179.

- Hugho, E.A.; Nagagi, Y.P.; Lyaruu, L.J.; Mosha, V.V.; Senyael, N.; Mwita, M.M.; Mabahi, R.W.; Temba, V.M.; Hebel, M.; Nyati, M.; et al. Inverted Patterns of Schistosomiasis and Fascioliasis and Risk Factors Among Humans and Livestock in Northern Tanzania. Pathogens 2025, 14, 87. https://doi.org/10.3390/pathogens14010087

s presented at the One Health Conference, publications in preparation

Up-take/use indicator target date: 31/12/2027

Sustainable Development Goals

Good Health and Well-being;Reduced Inequality;Climate Action;Partnerships to achieve the Goal

Concept and approach

Rationale:

This Expected Result (ER) is about generating evidence to enable the development of innovative strategies to reduce VBD-related human vulnerability and to increase resilience of African populations to VBD-related health threats with using a One-Health approach. It aims to broaden and extend knowledge, research capacity, collaboration and policy advice products that can be used throughout Africa and other regions. Operationalizing One Health combines well-documented, evidence-based principles and practices that specifically address the problem of population's vulnerability. It is widely agreed among international development agencies, medical and public health scientists that One Health can contribute significantly to global health in this regard.

In July 2022, a joint call of proposal was launched by TDR in collaboration with WHO Neglected disease department and the focal persons for climate & Health and for One-Health approach of the regional office of the WHO for Africa for consortiums of collaborating institutions in Africa to address One Health implementation research priorities for VBDs in the context of climate change.

Design and methodology:

In July 2022, a joint call of proposal was launched by TDR in collaboration with WHO Neglected disease department and the focal persons for climate & Health and for One-Health approach of the regional office of the WHO for Africa for consortiums of collaborating institutions in Africa to address One Health implementation research priorities for VBDs in the context of climate change.

Approach to ensure quality:	TDR's unit on Research for Implementation is best positioned for research and capacity building toward operationalizing an integrated, multisectoral and holistic One Health approach for the control of VBDs in the context of climate change. Through TDR's convening and facilitation role, various partners and stakeholders from different sectors are brought together for the One Health approach which is envisioned as a novel, essential policy and management tool for the control of VBDs at a time of changing environment/climate conditions in Africa.

ER Objectives

ERObj-0023 : To operationalize and implement a One Health approach, embedded into the health and environment strategic alliance of country task teams, to enable African countries to manage the impact of VBDs in the context of climate change

Biennium Budget

Biennium: 2024-2025

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 400 000	USD 600 000
Designated funds	USD 500 000	USD 600 000
Total	USD 900 000	USD 1 200 000

Planned Budget

Undesignated funds	USD 400 000
Designated funds	USD
Total	USD 400 000

Biennium: 2026-2027

Low and Hight Budget Scenario

	Low Budget Scenario	High Budget Scenario
Undesignated funds	USD 300 000	USD 600 000
Designated funds	USD 400 000	USD 600 000
Total	USD 700 000	USD 1 200 000

Planned Budget

Undesignated funds	USD 240 000
Designated funds	USD 400 000
Total	USD 640 000

ER Biennium Risks

Biennium: 2024-2025

ERRisk - 0275: Health researchers and other stakeholders may encounter challenges in working under transdisciplinary circumstances (e.g. across different disciplines, knowledge sources and other multisectoral partners).

Actions To Mitigate Risk: The transdisciplinary approach will be promoted and advocated for from the onset as an essential aspect required of the proposals and throughout the projects. The online training course will also supplement the implementation of the research projects.

Mitigation Status: On Track

Biennium: 2024-2025

ERRisk - 0276: Knowledge translation outcomes may usually not be under the control or influence of the projects, particularly those in the decision- and policy-making positions.

Actions To Mitigate Risk: For this research programme, stakeholders, including from the affected communities and policy/decision-makers, will be engaged from the very beginning at the inception and during the course and completion of the research projects to ensure their active involvement in conducting and reporting on the research on the research with the expectation that the results will be utilized as effectively as possible. It is anticipated that the periodic review of successes and failures of the projects and of the implementation of the research programme will allow timely remediation to potential problems that might occur during the course of the implementation of the projects.

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0337: Knowledge translation outcomes may usually not be under the control or influence of the projects, particularly those in the decision- and policy-making positions.

Actions To Mitigate Risk: For this research programme, stakeholders, including from the affected communities and policy/decision-makers, will be engaged from the very beginning at the inception and during the course and completion of the research projects to ensure their active involvement in conducting and reporting on the research on the research with the expectation that the results will be utilized as effectively as

possible. It is anticipated that the periodic review of successes and failures of the projects and of the implementation of the research programme will allow timely remediation to potential problems that might occur during the course of the implementation of the projects.

Mitigation Status: On Track

Biennium: 2026-2027

ERRisk - 0338: Health researchers and other stakeholders may encounter challenges in working under transdisciplinary circumstances (e.g. across different disciplines, knowledge sources and other multisectoral partners).

Actions To Mitigate Risk: The transdisciplinary approach will be promoted and advocated for from the onset as an essential aspect required of the proposals and throughout the projects. The online training course will also supplement the implementation of the research projects.

Mitigation Status: On Track

ER Biennium Outputs

Biennium: 2024-2025

EROutp-0371: scientific publications of 4 research results for at least 4 African research consortia and launch of 3 new research projects. Under the 50 million scenario, two more research projects could be conducted.

Output Indicator: Conduct of One Health research projects for the control of VBDs in the context of climate change

Output Target Date: 31/12/2025

Output Progress Status: On Track

Output Progress Description: all four consortium teams have presented their study results during the one Health conference (Nov 2024, Cape Town) and two manuscripts were published. Four other manuscripts are in preparation to be published

Biennium: 2026-2027

EROutp-0420: Evidence generated

Output Indicator: Conduct of One Health research projects for the control of VBDs in the context of climate change

Output Target Date: 31/12/2027

Output Progress Status:

Output Progress Description:

ER Biennium Outcomes

Biennium: 2024-2025

EROutc-0112: Scaled-up application of the One Health Transdisciplinary Ecosytem Approach for Vector Borne Diseases and other infectious diseases in the context of climate change

Progress made towards outcome : This Expected Result (ER) is about generating evidence to enable the development of innovative strategies to reduce VBD-related human vulnerability and to increase resilience of African populations to VBD-related health threats with using a One-Health approach. It aims to broaden and extend knowledge, research capacity, collaboration and policy advice products that can be used throughout Africa and other regions. Operationalizing One Health combines well-documented, evidence-based principles and practices that specifically address the problem of population's vulnerability. It is widely agreed among international development agencies, medical and public health scientists that One Health can contribute significantly to global health in this regard. In July 2022, a joint call of proposal was launched by TDR in collaboration with WHO Neglected disease department and the focal persons for climate & Health and for One-Health approach of the regional office of the WHO for Africa for consortiums of collaborating institutions in Africa to address One Health implementation research priorities for VBDs in the context of climate change. Progress in 2025 Progress: Four research proposals selected in 2022 to address One Health implementation research priorities for Vector borne diseases (VBDs) in the context of climate change in Africa have been progressing well. Building on this, four new projects have been initiated. 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): This study was conducted by the Makerere University, the University of Nairobi, Africa One Health University Network (AFROHUN) Uganda and the Kenya Medical Research Institute (KEMRI). This study aimed to identify leishmaniasis hotspots and decipher the risks and climate factors associated with the disease within endemic foci using retrospective passive and active screening data in humans and animals, as well as climate data. The study was finalised. Study results were shared during the One Health World Conference (Cape Town, 19-23 Sept 2024) and four scientific manauscripts were submited for publication. The surveillance and reporting of Visceral Leishmaniasis and sandfly data in the Karamoja subregion of Uganda was identified as a wekness for better understanding disease dynamics in this region. As follow-up activity, it was proposed to collaborate with the ministry of Health to strengthen this surveillance system Project 2 - Enhancing One Health surveillance and control of vector-borne diseases related to climate change in the West Africa region (Senegal and Nigeria): This study was conducted by the Institute Pasteur Dakar (IPD) and the Nigerian Institute of Medical Research (NIMR). The study aimed to jointly undertake mixed retrospective-prospective research to determine the effect of climate change on mosquito borne disease emergence, outbreaks and spread in Senegal and Nigeria and establish a process for the systematic translation of strategies for prevention, preparedness, and response, which can then be extended to other parts of West Africa. The study was finalized in both countries. The results were shared during the One Health World Conference (Cape Town, 19–23 September 2024), and Senegal has published its findings. These findings underscore the importance of integrating climate variability into malaria control strategies. Predictive modelling and early warning systems can significantly enhance response efficiency by enabling proactive vector control and more effective allocation of healthcare resources. As a follow-up activity, the Senegalese team will assess the use of EWARS-CSD (see ER.1.1.1) to better determine the optimal start date for seasonal malaria chemoprevention. Nigeria will pilot the use of EWARS-CSD to support dengue outbreak prediction. Project 3 - One Health approach to controlling and understanding the dynamics of fascioliasis and schistosomiasis in the context of climate change (Tanzania and Rwanda): This study was conducted by the Kilimanjaro Clinical Research Institute (KCRI), the Tanzania Plant Health and Pesticides Authority (TPHPA) and the University of Rwanda. The aim of this study was to co-develop comprehensive One Health approaches in Tanzania and Rwanda to tackle the complex transmission-enabling environment of the snail-borne trematodiases around fresh water-sources. The study was finalized, with results presented at the One Health World Conference (Cape Town, 19–23 September 2024) and published in a peer-reviewed journal. Key findings revealed significant associations between infection risk and community-based activities, highlighting the need for multi-level stakeholder engagement. This inclusive approach can help bridge knowledge gaps, foster local ownership, and support the co-development of effective intervention strategies. As a follow-up, a multi-sectoral team will design and test comprehensive One Health snail-vector control strategies in Tanzania and Rwanda, aiming to inform sustainable policy options for controlling snail-borne trematodiases. Study results are expected in early 2026. 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): This study is conducted by the University of Kwazulu-Natal and the University of Global Health Equity. The aim of this study is to develop metrics, a One Health implementation guide and a collaborative platform for the evaluation of One Health-based schistosomiasis prevention and control projects. The study builds on previous models and will develop novel One Health operationalization metrics relevant for the prevention and control of schistosomiasis in the context of climate change among vulnerable communities. The findings of this exercise will be applicable to a broader range of One Health and Vector borne Disease settings. The collaborative platform will strengthen partnerships among African scientists and research institutions in the field of One Health for the prevention and control of VBDs in the context of climate change among vulnerable communities in Africa. The project is almost finalised and study findings should be shared by the end of 2025.

Biennium: 2026-2027

EROutc-0144: Guidance, policy decisions and or practice on One Health approach for the control of vector-borne diseases in the context of climate change informed by TDR outputs

Progress made towards outcome :

ER Project Links

P25-01734: Pilot project for the use of EWARS-csd for informing malaria control activities such as SMC
PI Name : Cheikh Talla
Project Start Date : 26/11/2025
Project End Date : 31/12/2025

P25-01731: Pilot project for the use of EWARS-csd for predicting Dengue outbreaks in Nigeria (Delta State)
PI Name : Ehimario Igumbor
Project Start Date : 24/11/2025
Project End Date : 31/12/2025

P25-01645: Technical assistance to support the integration of satellite meteorological data into EWARS-csd and other automation processes for operational purposes
PI Name : Maquines Odhlambo Sewe
Project Start Date : 25/07/2025
Project End Date : 15/12/2025

P25-01627: Support for engaging communities in the control of Schistosomiasis and Fascioliasis control through a participatory mode and a one health approach.
PI Name : AbdulHamid Lukambagire
Project Start Date : 30/06/2025
Project End Date : 31/12/2025

P25-01626: Support for strengthening the surveillance and reporting of Visceral Leishmaniasis in the Karamoja subregion of Uganda
PI Name : Charles Drago Kato
Project Start Date : 27/06/2025
Project End Date : 30/06/2026

P25-01600: Publication: Publication of the paper entitle "Inverted Patterns of Schistosomiasis and Fascioliasis and Risk Factors Among Humans and Livestock in Northern Tanzania
PI Name : Aleksandra Cuculovic
Project Start Date : 16/05/2025
Project End Date : 19/05/2025

P24-01392: Consultant TDR - vector control, multi sectoral approach and country preparedness
PI Name : Gildas Yahouedo
Project Start Date : 01/10/2024
Project End Date : 12/09/2025

P24-01386: : Green cities and infectious disease risks: a scoping/systematic review
PI Name : Claire Lajaunie
Project Start Date : 19/09/2024
Project End Date : 31/12/2024

P24-01373: ADR to AM to support the TDR side-event on “The impact of climate change on vector control tools
PI Name : Susanna Borroto
Project Start Date : 25/07/2024
Project End Date : 30/09/2024

P24-01368: Development of Communication materials in relation with the TDR activities on Innovative Vector Control Technologies
PI Name : Thomas Scalway
Project Start Date : 10/09/2024
Project End Date : 31/10/2015

P24-01330: Maintenance of the Global Atlas of Medical Entomology Schooling (GAMES) on the Global
PI Name : Chris Rixson
Project Start Date : 24/06/2024

Vector Hub and consultancy of the use of GBIF data on vectors into policies.

Project End Date : 31/10/2025

P22-00836: Application of One Health approach for reducing the burden of vector-borne diseases in vulnerable communities in the context of climate change

PI Name : Moses Chimbari
Project Start Date : 01/10/2022
Project End Date : 31/12/2023

P22-00835: Enhancing One-health Surveillance and Control of Vector-borne Diseases related to Climate Change in the West Africa region

PI Name : Cheikh Talla
Project Start Date : 01/09/2022
Project End Date : 31/12/2023

P22-00834: One health approach to control and understanding the dynamics of fascioliasis and schistosomiasis in the context of climate change in Rwanda and Tanzania

PI Name : AbdulHamid Lukambagire
Project Start Date : 01/10/2022
Project End Date : 31/12/2023

P22-00833: Strengthening Surveillance of Leishmaniasis in Uganda and Kenya through a Collaborative Multisectoral One Health Capacity Building Approach in Endemic foci.

PI Name : Charles Drago Kato
Project Start Date : 01/09/2022
Project End Date : 31/12/2023

P22-00751: Consultant contract to support One Health and Climate Change activities

PI Name : Nadisha Sidhu
Project Start Date : 15/09/2022
Project End Date : 31/12/2023

P21-00360: Consultant for landscape analysis, joint SDF on VBDs and pockets of poverty

PI Name : Nabil Haddad
Project Start Date : 01/07/2021
Project End Date : 30/11/2021

P21-00280: Provide technical support and expertise for piloting the Draft Plan for Operationalizing One Health.

PI Name : Benson B. A. Estambale
Project Start Date : 01/09/2020
Project End Date : 28/02/2022

P21-00279: Provide technical support and expertise for piloting the Draft Plan for Operationalizing One Health

PI Name : Brama Koné
Project Start Date : 01/09/2020
Project End Date : 28/02/2022

P21-00278: Provide technical support and expertise for piloting the Draft Plan for Operationalizing One Health.

PI Name : Moses John Chimbari
Project Start Date : 01/09/2020
Project End Date : 31/03/2022

P21-00277: Provide technical support and expertise for piloting the Draft Plan for Operationalizing One Health.

PI Name : Paul Gwakisa
Project Start Date : 01/09/2020
Project End Date : 28/02/2022

C00038: (ER 1.3.3) Technical support in the delivery of products relevant to Operationalizing One Health for Vector Borne Diseases and Climate Change

PI Name : Bruce Wilcox
Project Start Date : 01/06/2020
Project End Date : 28/02/2022

ER Country Links

WHO Region :	AFRO	**Country:**	Côte d'Ivoire	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Kenya	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	South Africa	**World Bank Income Group :**	Upper middle income
WHO Region :	AFRO	**Country:**	Tanzania	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Senegal	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Nigeria	**World Bank Income Group :**	Lower middle income
WHO Region :	AFRO	**Country:**	Rwanda	**World Bank Income Group :**	Low income
WHO Region :	AFRO	**Country:**	Tanzania	**World Bank Income Group :**	Low income