TDR Results
2015 Report

Measuring for improvement

World Health Organization

TDR For research on diseases of poverty
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TDR/STRA/16.1

TDR Results

2015 Report

1. Summary

In 2015 TDR's technical and financial implementation reached a peak not seen since the years preceding the 2011 restructuring, this time with staff levels significantly lower compared to the historical precedent. The outcomes achieved represent great value for money, due in large measure to a profound change in TDR's working model. The approach is based on collaboration with external partners and on leveraging resources and knowledge, while maintaining a high standard of quality.

A number of tools generated in 2015 or in previous years have started to be used by countries and/or WHO control programmes and donor organizations, thus translating into outcomes and impact the results of TDR proejcts. In general, it takes years before a new or improved tool, strategy or solution finds its way to policy and practice. However, in the context of emergencies and outbreaks as one example, TDR's collaboration with external partners contributed to the swift development and deployment of a platform for testing Ebola treatments in West Africa that was used for two clinical trials.

Education grants (PhD, MSc) for researchers are now being administered through collaborative agreements involving seven highly recognized universities from low- and middle-income countries, thus further increasing capacity in countries while enhancing secretariat efficiency. A record number of 178 research capacity strengthening (training) grants were awarded in 2015, made possible thanks to the recently implemented model.

TDR participated in collaborative research projects with external partners and consortia ranging from innovative vector control to eco-bio-social research, environmental change health impact in Africa and emerging diseases such as Ebola virus disease. The crosscutting nature of TDR projects (across research, capacity strengthening and knowledge transfer) was well reflected in the development of global data-sharing platforms to improve the evidence base in tuberculosis and schistosomiasis.

Of the 186 publications acknowledging TDR support in 2015, 40 came from the SORT IT structured operational research and training programme. This is focused on increasing capacity in disease endemic country control programmes to address system bottlenecks. SORT IT leverages significant resources from the countries involved, as well as from other organizations that are part of the initiative, and their publications are freely available and often translated into the local language for increased dissemination.

On the ethics and equity side, which are core values of TDR's work, nine grants were awarded to groups of women researchers from African countries to identify and test ways of supporting women researchers to enhance their careers. Some of these activities enjoyed high visibility in their countries and leveraged significant funding that will support their sustainability. Another collaboration with partners in Asia developed an enhanced informed consent form that improves research subjects' understanding of the essential elements related to their safety and rights, and is now being utilized in clinical settings.

Numerous other projects are fully engaging country and regional partners. The analysis of 24 social innovation projects in 16 countries to better understand the factors behind success is drawing together communities, universities and health and social sciences. Two new networks are making an impact on tuberculosis control in West Africa and on vector-borne outbreaks in the Caribbean such as Zika and dengue fever. All are building capacity in the regions through training, good practices and better coordination and prioritization among institutions.

These initiatives, as well as the other elements of the project portfolio, were evaluated by independent external reviewers. Work began in December 2015. The Sixth External Review will be presented in 2016 and inform the development of the Programme's future strategy for 2018-2023.

2. Introduction

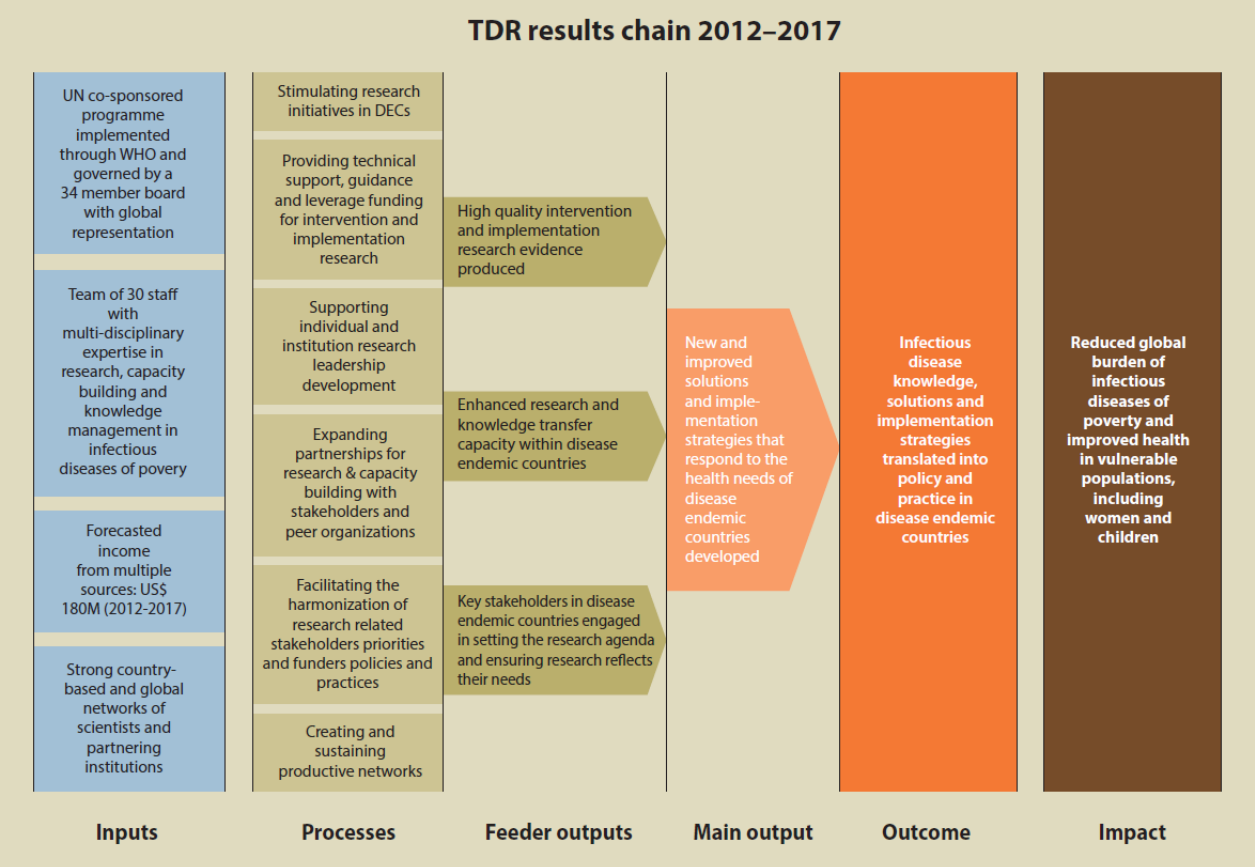
The 2015 Results Report measures the set of performance indicators against targets and in line with the 2012-2017 strategic plan and the current Performance Assessment Framework.

The report shows progress made on various performance indicators related to three overarching categories: technical expected results, application of organizational core values and managerial performance.

Aside from the work on its strategic areas (intervention and implementation research and research capacity strengthening), TDR contributed effort to WHO's effort against Ebola and other emerging diseases, and has responded to the call of the World Health Assembly by developing working models for the global mechanism for funding health R&D for diseases disproportionately affecting developing countries.

As shown in the diagram below, TDR aims for a global impact to reduce the burden of infectious diseases of poverty. TDR's contribution is made possible by the overall outcome of the Programme, which is the translation of new knowledge, solutions and tools into policy and practice in disease endemic countries. These in turn are the result of three feeder outputs that support and complement each other, with the sustainability of research outputs being enhanced by the engagement of stakeholders and by the capacity built in countries.

Figure 1 - TDR results chain



An overview of the progress made on each of TDR's key performance indicators is presented in the monitoring and evaluation matrix (see Table 1), with further detail being provided in the body of the report.

Table 1- TDR's monitoring and evaluation matrix 2012-2017

Expected results	Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*	Frequency of measurement
Technical expected results					
Outcome: **Infectious disease knowledge, solutions and implementation strategies translated into policy and practice in disease endemic countries**	1. Number and proportion of innovative knowledge, new/improved solutions or implementation strategies successfully applied in developing countries	0	30 ≥75%	20 *(+3)* *63%*	Measured annually, cumulative over 6 years
	2. Number of tools and reports that have been used to inform policy and/or practice of global/regional stakeholders or major funding agencies	0	7	4 *(+1)*	Measured annually, cumulative over 6 years
Main output: **New and improved solutions and implementation strategies that respond to health needs of disease endemic countries developed**	3. Number and proportion of innovative knowledge, new/improved solutions or implementation strategies developed in response to requests from WHO control programmes and/or diseases endemic countries	0	35 ≥87%	21 *(+5)* 100%	Measured annually, cumulative over 6 years
	4. Number of peer-reviewed publications supported by TDR and percentage published in open access journals	233 Not measured	≥150/year 100%	740 (2012-2015) *(+186 in 2015)* 75% open access (2015)	Measured annually
Feeder outputs: **High quality intervention and implementation research evidence produced**	5. Number and evidence of new/improved tools, case-management, control or implementation strategies generated through TDR facilitation with systematic quality review by external committees	0	40	21 *(+5)*	Measured annually, cumulative over 6 years
	6. Proportion of peer-reviewed publications supported by TDR with first author from Disease Endemic Country (DEC) institutions	61%	≥70%	63%	Measured annually
Enhanced research and knowledge transfer capacity within disease endemic countries	7. Number of DEC institutions and/or networks demonstrating expanded scope of activities and/or increased funding from alternative sources thanks to TDR support	0	5	3 *(0)*	Measured annually, cumulative over 6 years
	8. Number of TDR grantees/trainees and proportion demonstrating career progression and/or increased scientific productivity	0	150 ≥80%	58/68 85% 318 new trainees *(+178 in 2015)*	Measured on cohorts 3-5 years after training ended

Expected results	Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*	Frequency of measurement
Key stakeholders in disease endemic countries engaged in setting the research agenda and ensuring research reflects their needs	9. Number and evidence of research-related agendas, recommendations and practices agreed by stakeholders at global, regional or country level	0	9	9 *(+1)*	Measured annually, cumulative over 6 years
	10. Proportion of TDR outputs produced with key DEC stakeholder active involvement	Not measured	100%	100%	Measured annually
Application of core values					
Equity <u>*Social and economic:*</u>	11. Proportion of TDR grants/contracts awarded to institutions or individuals in DECs (total count and total dollar amount)	59% DEC	75% DEC	78% DEC (amount) 62% DEC (count)	Measured annually
	12. Proportion of experts from DECs on TDR advisory committees	58%	60%	71%	Measured annually
<u>*Gender:*</u>	13. Proportion of women among grantees/contract recipients (total count and total amount)	35% (n) 17% ($)	50%	39% (% count) 28% (% amount)	Measured annually
	14. Proportion of women on TDR advisory committees	32%	50%	53%	Measured annually
	15. Proportion of women as first author of peer-reviewed publications supported by TDR (within a calendar year)	Not measured	50%	39%	Measured annually
Effective partnerships	16. Resources leveraged as direct contributions (co-funding, services or in-kind) to TDR projects (examples)	Not measured	tbd	$ 1:1 ($ TDR : $ partners) People 1:17 (TDR : in the field)	Measured annually
Sustainability of outcomes	17. Number of effective public health tools and strategies developed which have been in use for at least two years	51	67	75	Measured annually, two years after adoption
Quality of work	18. Proportion of project final reports found satisfactory by peer-review committees	Not measured	>80%	100%	Measured annually

Expected results	Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*	Frequency of measurement
Management performance					
Effective resource mobilization	19. Percentage of approved biennial budget successfully funded	78%	≥100%	100%	Measured in the second year of each biennium
	20. Percentage of income received from multi-year agreements	Not measured	tbd	72%	Measured in the second year of each biennium
Effective management	21. Percentage of staff workplans and performance reviews (including personal development plan) completed on time	Not measured	≥90%	87%	Measured annually
	22. Proportion of expected results on track	60%	≥80%	88%	Measured annually
	23. Proportion of significant risk management action plans that are on track	Not measured	≥80%	94%	Measured annually

3. Achieving TDR's scientific and technical objectives

The indicators covering TDR's achievement of expected results measure the outcome level as well as the outputs generated which, once translated into policy and practice, will have an impact on the burden of disease in countries. Achievements are reported in the technical teams' annual reports and measured against biennial targets approved by the Joint Coordinating Board in the year preceding each WHO biennium (e.g. approved in 2013 for the biennium 2014-2015).

3.1 Outcome: Infectious disease knowledge, solutions and implementation strategies translated into policy and practice in disease endemic countries

TDR works with partners in disease endemic countries (DECs) to generate essential knowledge and evidence for the prevention and control of infectious diseases of poverty, and to facilitate translation of the solutions into policy and improved healthcare. TDR's approach leads to strengthening health systems operations in these countries, ultimately reducing the burden of infectious diseases of poverty.

This is done through three key mechanisms – the generation of new evidence and knowledge products, capacity building in disease endemic countries, and the formation of close working relationships with key policy makers and programme staff to ensure the translation of new knowledge into effective disease control efforts on the ground.

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
1. Number and proportion of innovative knowledge, new/improved solutions or implementation strategies successfully applied in developing countries	0	30 ≥75%	20 *(+3)* *63%*
2. Number of tools and reports that have been used to inform policy and/or practice of global/regional stakeholders or major funding agencies	0	7	4 *(+1)*

Indicator 1 - Number and proportion of innovative knowledge, new/improved solutions or implementation strategies successfully applied in developing countries

Several new tools, solutions and strategies generated between 2012 and 2015 started being used by countries in 2015. Other tools have not yet reached the utilization stage; their use will be accounted for in future reports. Below is a list of tools utilized in countries.

- ✓ **A platform for testing Ebola treatments in West Africa was used to test two treatments**. TDR supported the development of a platform for testing Ebola treatments in West Africa led by the University of Oxford. This included clinical trials of putative EVD treatments. Two drugs were tested: brincidofovir in Liberia (study terminated due to lack of cases and manufacturer withdrawal); and TKM-Ebola in Sierra Leone (study reached the futility endpoint) – both submitted for publication, primary data sharing is under way.
- ✓ **West African Regional Network for TB control (WARN-TB) leveraged significant resources.** With the support of TDR, WARN-TB was established in June 2015. It comprises the 16 countries of the West African region with an executive secretariat based in Benin. The objectives of WARN-TB are to convene, coordinate and facilitate communications between national TB control programmes, bilateral and multilateral organizations, as well as private sector companies and civil society

organizations, and promote OR/IR in NTPs including the efficient use of research outcomes to strengthen TB control within the West African Region. TDR supported WARN-TB countries in the development of their national TB research plan. The initiative succeeded in leveraging significant resources.

- ✓ **Making use of the improved dengue contingency plans.** Further to earlier work on dengue surveillance in 10 countries and its ability to detect outbreaks, a systematic literature review on dengue surveillance and contingency planning has been completed and published and used, identifying shortcomings of current dengue contingency plans and making evidence-based recommendations for improvement. The retrospective study on the validity of alarm signals for dengue outbreaks in five countries has also been completed. This has now been taken up by the next phase of the dengue outbreak research programme.

Indicator 2 - Number of tools and reports that have been used to inform policy and/or practice of global/regional stakeholders or major funding agencies

- ✓ **Expanding SORT IT.** The Structured Operational/Implementation Research and Training Initiative (SORT IT), led by TDR, completed another four courses in 2015 (48 participants) and expanded to Central Asian countries (in collaboration with the WHO Regional Office in Europe), Latin-American countries (in partnership with the WHO Regional Office for the Americas) and to African countries (in collaboration with the WHO Regional Office for Africa). The first national courses (at country level) were implemented in several countries. Over 140 operational research projects were completed in 2015, providing evidence to solve issues and bottlenecks in national disease control programmes. Over 100 open-access publications resulted from SORT IT projects over the last two years, contributing to knowledge dissemination within regions and globally.

3.2 Main output: New and improved solutions and implementation strategies that respond to health needs of disease endemic countries developed

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
3. Number and proportion of: innovative knowledge, new/improved solutions or implementation strategies developed in response to requests from WHO control programmes and/or diseases endemic countries	0	35 ≥87%	21 *(+5)* 100%
4. Number of peer-reviewed publications supported by TDR and percentage published in open access journals	233 Not measured	≥150/year 100%	740 (2012-2015) *(+186 in 2015)* 75% open access (2015)

Indicator 3 - Number and proportion of: innovative knowledge, new/improved solutions or implementation strategies developed in response to requests from WHO control programmes and/or diseases endemic countries

The totality of the outputs generated in 2015 (five, see indicator 5) were done in response to needs identified by countries, disease-control programmes or international groups of experts with heavy representation from disease endemic countries researchers.

Indicator 4 - Number of peer-reviewed publications supported by TDR and percentage published in open access journals

The number of peer-reviewed publications supported by TDR in 2015 was 186. The proportion published in open or free access was 75%. The total for the 2014-2015 biennium was 413 publications, out of which 82% complied with the concept of free/open access.

In order to promote and enhance the translation of research into practice, free access to research publications is key. To measure the extent to which TDR-supported publications responded to the open-access concept, the percentage of publications electronically accessible (full text) via PubMed were counted. In general, users can access articles free of charge either because they are published in an open access journal (such as PLoS or BioMed Central journals) or they are stored in a free access repository (such as PubMed Central) at the request of one of the research funders. Other scenarios that guarantee free access are TDR-funded journal supplements or special agreements between authors and publishers to make the access to a specific article free of charge for the reader.

Of the 186 peer-reviewed publications in 2015, 75% (n=139) complied with the concept of open / free access. Most publications from 2015 reflect research done in previous years, before TDR mandated publishing in open/free access for all grantees.

Of the 186 publications, 40 came from the SORT IT programme, reflecting outputs from operational research done by disease control programmes in DECs to address bottlenecks and issues in the implementation of their work. The SORT IT programme leverages significant resources from the countries involved, as well as from other organizations that are part of the initiative and their publications are entirely open access.

Figure 2. - TDR-SUPPORTED PUBLICATIONS: Proportion in open/free access, 2015

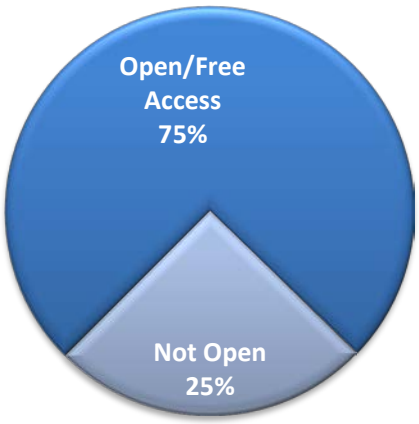
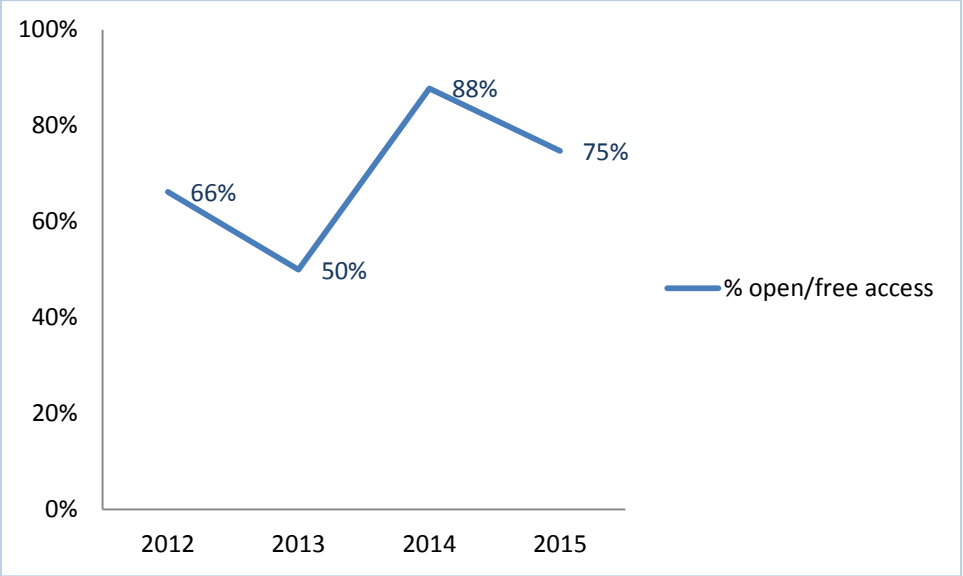


Figure 3 - TDR-SUPPORTED PUBLICATIONS: Proportion in open/free access, 2012-2015



The complete list of publications supported by TDR in 2015 is attached in Annex 1. It provides the names of the authors, the publication title, and the name of the peer-reviewed journal where it appeared.

3.3 Feeder output: High quality intervention and implementation research evidence produced

The generation of new research evidence comes as a result of research and capacity strengthening projects and grants, as well as convening and priority setting activities that TDR funds.

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
5. Number and evidence of new/improved tools, case-management, control or implementation strategies generated through TDR facilitation with systematic quality review by external committees	0	40	21 *(+5)*
6. Proportion of peer-reviewed publications supported by TDR with first author from DEC institutions	61%	≥70%	63%

Indicator 5 - Number and evidence of new/improved tools, case management, control or implementation strategies generated through TDR facilitation with systematic quality review by external committees

- ✓ **Addressing barriers in the careers of women scientists.** A special call was issued and nine grants (from more than 60 proposals received) were awarded to groups of women researchers from nine African countries to fund various initiatives that research ways of supporting women researchers to enhance their careers. Some of these activities enjoyed high visibility in their countries and leveraged significant funding that will support their sustainability. After completion of the projects, reports were compiled into case studies and profiles of leading

women scientists in Africa. TDR created a dedicated website for this work on Women in Science[1], with significant background research and links to the individual projects.

- ✓ Response to Ebola and other epidemic diseases: TDR contributed to the development of the **WHO Blueprint for R&D preparedness and rapid research response,** as well as to the development of the **monitoring and evaluation framework for the blueprint** (led by WHO/HIS) – to support development and production of health technologies for priority infectious diseases with epidemic potential. Also, TDR contributed to the development of **methodologies for testing interventions in outbreak situations**, including a methodology paper on a multistage approach to test putative interventions and the development of a research framework for infectious diseases with epidemic potential.
- ✓ **Data-sharing platforms to improve the evidence base in TB, schistosomiasis and visceral leishmaniasis.** *A) Tuberculosis.* This is a joint initiative of three 'data providers' (TDR, TB Alliance and the University of London) that sponsored three large trials on fluoroquinolone-based regimens (gatifloxacin, Moxifloxacin), comprising a 'gated' database with a Data Access Committee. The initiative was launched at the Union conference in Cape Town in December 2015. *B) Schistosomiasis,* and *C) Visceral leishmaniasis:* discussions are in various stages for agreement on the scope, mechanism and infrastructure.
- ✓ **Improving research subjects understanding of their rights and the risks associated with study participation.** In 2014-2015 TDR supported a collaborative initiative led by FERCAP[2] and SIDCER[3], together with Nagasaki University in Japan, to develop an 'enhanced informed consent form' that would improve research subjects' understanding of the essential elements related to safety and rights in the course of being administered the informed consent. The form and the methodology to develop it (proposed by SIDCER) were used in a clinical trial in Thailand and showed the subjects' understanding of safety and rights significantly improved. There is a plan to adapt the template to the various stages of clinical research and development and to disseminate it together with the methodology through SIDCER's training programmes.
- ✓ **New implementation approach for TDR education grants (PhD, MSc).** Seven universities from low- and middle-income countries have been selected through open competition to host the TDR international postgraduate training scheme in implementation research. There are 3 universities in Africa, 2 in Asia and 1 each in the Americas and the Middle East. The new plan will provide up to US$ 13 million in support for over 200 PhD and MSc degree students from low- and middle-income countries in the next 4 years. The goal is to boost the number of health researchers in these countries to continue to build a critical mass that is qualified to lead research initiatives responding to country needs. In addition, this new approach will strengthen the capacity of the seven universities to conduct good quality research.

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1 See http://www.who.int/tdr/capacity/gender/en/

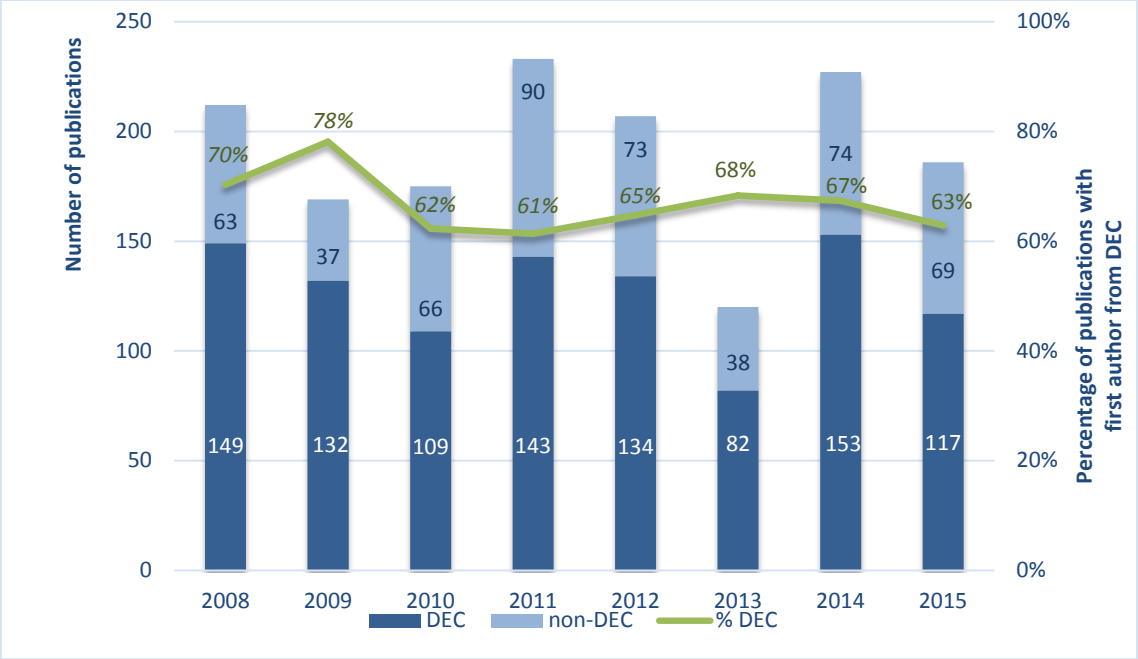
2 The Forum for Ethical Review Committees in the Asian and Western Pacific Region

3 The Strategic Initiative for Developing Capacity in Ethical Review

Indicator 6 - Proportion of peer-reviewed publications supported by TDR with first author from DEC institutions

The percentage of publications with first authors from a DEC was 63%, decreasing slightly over the last 3 years.

Figure 4 - TDR-SUPPORTED PUBLICATIONS: proportion of first authors from DEC institutions, 2008-2015



The distribution by country of the first authors of 2014 publications is presented in Table 2. First authors came from institutions in 39 DEC and 13 non-DEC countries from all six WHO regions, reflecting TDR's global reach.

Table 2 - TDR-SUPPORTED PUBLICATIONS: country of first author institution, 2015

DEC countries						Non-DEC countries	
Argentina	8	Ghana	5	South Africa	5	Australia	8
Bangladesh	2	Guatemala	2	Sri Lanka	1	Belgium	2
Bhutan	1	Guinea	1	Sudan	1	Canada	1
Bolivia	1	India	14	Swaziland	1	France	4
Brazil	6	Kenya	7	Thailand	2	Germany	1
Burkina Faso	4	Mali	3	Tunisia	1	Italy	1
Cameroon	2	Mexico	5	Uganda	4	Japan	1
China	3	Myanmar	1	Tanzania	5	Luxembourg	1
Colombia	3	Nepal	3	Uzbekistan	1	Spain	2
Ecuador	1	Nigeria	8	Venezuela	1	Switzerland	19
Egypt	1	Peru	1	Viet Nam	2	United Kingdom	17
Ethiopia	4	Rwanda	2	Zambia	1	USA	10
Fiji	1	Sierra Leone	1	Zimbabwe	3	Uruguay	1

3.4 Feeder output: Enhanced research and knowledge transfer capacity within disease endemic countries

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
7. Number of DEC institutions and/or networks demonstrating expanded scope of activities and/or increased funding from alternative sources thanks to TDR support	0	5	3 *(0)*
8. Number of TDR grantees/trainees and proportion demonstrating career progression and/or increased scientific productivity	0	150 ≥80%	58/68 85% 318 new trainees *(+178 in 2015)*

Indicator 7 - Number of DEC institutions and/or networks demonstrating expanded scope of activities and/or increased funding from alternative sources thanks to TDR support

TDR has a longstanding history in the creation and development of networks; within the context of its new strategy, increasingly there is a need for TDR to work in partnerships and through networks to leverage efforts and resources. In 2015, a qualitative research study was conducted by TDR on health research networks good practices, which should help TDR nurture future networks. A publication is in preparation.

Three networks were initiated, leveraging resources and capacity from a significant number of stakeholders; their activities and contribution will be assessed and presented in next year's report. i) A new network to track and respond early to epidemics such as Zika, dengue and chikungunya is being set up in the Caribbean with the intent to facilitate the mapping, organization and information exchange between existing diagnostic facilities, surveillance systems and vector control with regard to future epidemics. ii) As part of TDR's efforts to promote equity in health research in low- and middle-income countries, a new network to strengthen research capacities in Lusophone countries in sub-Sahara Africa is being set up to coordinate a series of research capacity strengthening activities, such as proposal writing, scientific writing and good research practices; iii) A research network that brings together the national tuberculosis programmes of 16 countries in West Africa, called West Africa Research Network-TB (WARN-TB), was established by WHO/TDR. The main objectives are (i) to harmonise practices for TB care and prevention in the region, and (ii) to inform such practices through national and regional level operational and implementation research projects.

Indicator 8 - Number of TDR grantees/trainees and proportion demonstrating career progression and/or increased scientific productivity

Career progression survey

In 2014 TDR took part in the European Science Foundation career tracking survey pilot testing, conducted in collaboration with other funders of educational and training programmes. A TDR cohort of 150 grantees / trainees was selected and the survey was completed at the end of 2014 with a focus group discussion on the preliminary results held in December which involved TDR grantees. The survey results were made available in April 2015 and a report and manual on how to conduct such a survey was published.

Highlights from the analysis:

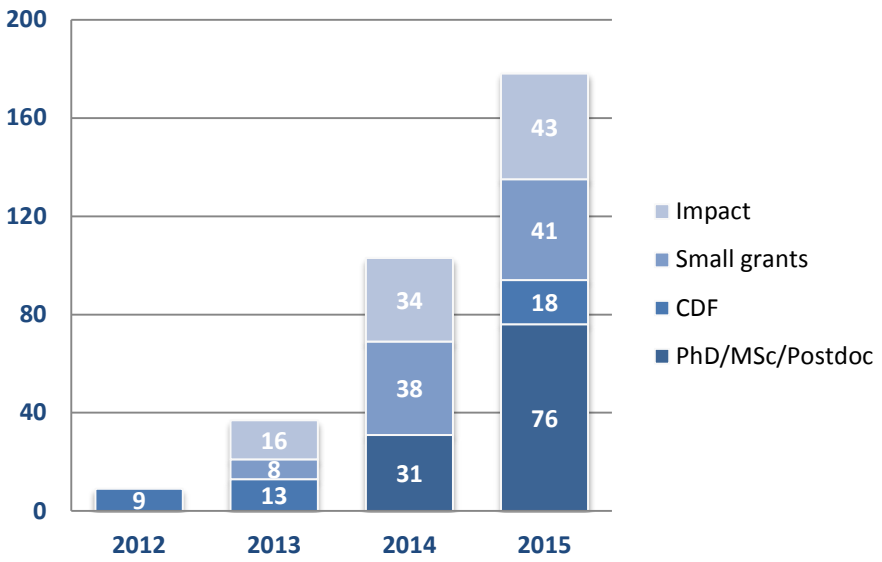
- 88% (68/77 respondents) still work in health research
- WHO/TDR grantees / trainees were nearly three times as likely as their European (mainly researcher) peers to be in permanent (mainly medical and educational) posts – but with a research component
- Unlike respondents funded by other participant organizations, a significant proportion of the WHO/TDR respondents moved to Europe to complete their doctorates but returned to their region (and country) of origin following completion of their education
- WHO/TDR grantees / trainees are **much more heavily involved in research supervision** of PhD and other students and colleagues than the combined group. They are also much **more likely to be managing a research team and setting up a laboratory than the combined group**.
- WHO/TDR grantees / trainees rated the importance of support by their sponsor (WHO/TDR) much higher than the combined group average, indicating a higher level of appreciation

Progress – new grants in 2015

The number of grants awarded in 2015 increased greatly compared to previous years, with 178 new grants being awarded.

- ✓ In 2015, **43 new short-term training grants** were awarded to researchers in LMICs . This was the third round of this scheme (formerly known as the IMPACT grant scheme) to strengthen capacity in implementation research.
- ✓ **The international postgraduate training scheme awarded 74 grants** to nationals from LMICs to acquire postgraduate qualifications (MSc, PhD).
- ✓ All six WHO regional offices issued calls for proposals for small grants jointly with TDR. Following the selection process, **43 small grants** were awarded in 2015 through this scheme.
- ✓ In 2015 TDR awarded **2 postdoctoral grants**.
- ✓ **Clinical Research and Development Fellowship.** The European and Developing Countries Clinical Trials Partnership (EDCTP) and TDR signed an agreement in 2014 to join forces in developing clinical research capacity. Following a joint TDR-EDCTP call for applications, TDR supported 18 fellowships and EDCTP 5. A second call for applications was initiated in October 2015.

Figure 5 - CAPACITY STRENGTHENING GRANTS AWARDED: Progress 2012-2015



3.5 Feeder output: Key stakeholders in disease endemic countries engaged in setting the research agenda and ensuring research reflects their needs

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
9. Number and evidence of research-related agendas, recommendations and practices agreed by stakeholders at global, regional or country level	0	9	9 *(+1)*
10. Proportion of TDR outputs produced with key DEC stakeholder active involvement	Not measured	100%	100%

Indicator 9 - Number and evidence of research-related agendas, recommendations and practices agreed by stakeholders at global, regional or country level

In 2015, as part of the demonstration projects funded by the pooled fund supporting R&D for neglected diseases (managed by TDR and owned by the World Health Assembly), three projects received funding following selection by WHO Member States. The three projects are being implemented.

Indicator 10 - Proportion of TDR outputs produced with key DEC stakeholder active involvement

All outputs generated in 2015 involved disease endemic countries in multiple ways: consultation to determine priorities; engagement of experts to design, review and oversee projects; awarding capacity-strengthening grants; working with the WHO regional offices; collaborating with vector control programmes or disease control programmes; or conducting and monitoring research in the field. Numerous project sites from DECs contributed financial or in kind resources.

4. Applying TDR core values to our work

4.1 Socio-economic and gender equity

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
11. Proportion of TDR grants/contracts awarded to institutions or individuals in DECs (total count and total dollar amount)	59% DEC	75% DEC	78% DEC (amount) 62% DEC (count)
12. Proportion of experts from DECs on TDR advisory committees	58%	60%	71%
13. Proportion of women among grantees/contract recipients (total count and total amount)	35% (n) 17% ($)	50%	39% (% count) 28% (% amount)
14. Proportion of women on TDR advisory committees	32%	50%	53%
15. Proportion of women as first author of peer-reviewed publications supported by TDR (within a calendar year)	Not measured	50%	39%

Indicator 11 - Proportion of TDR grants/contracts awarded to institutions or individuals in DECs and low income countries (total count and total dollar amount)

In 2015, the proportion of grants and contracts awarded to institutions and researchers in DECs (US$ 13.5 million) was 78%, an increase compared to 2014 (70%). This represents a more than double year-to-year increase in the absolute amount awarded to DECs (US$ 13.5 million 2015 compared to US$ 5.4 million in 2014).

Figure 6 - GRANTS/CONTRACTS: proportion awarded to disease endemic countries (% count) in 2015

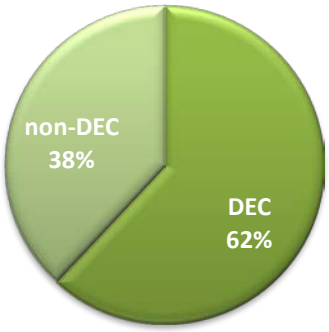


Figure 7 - GRANTS/CONTRACTS: proportion awarded to disease endemic countries (% amount) in 2015

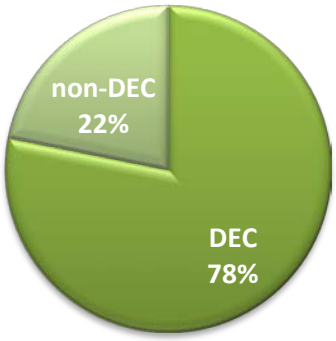
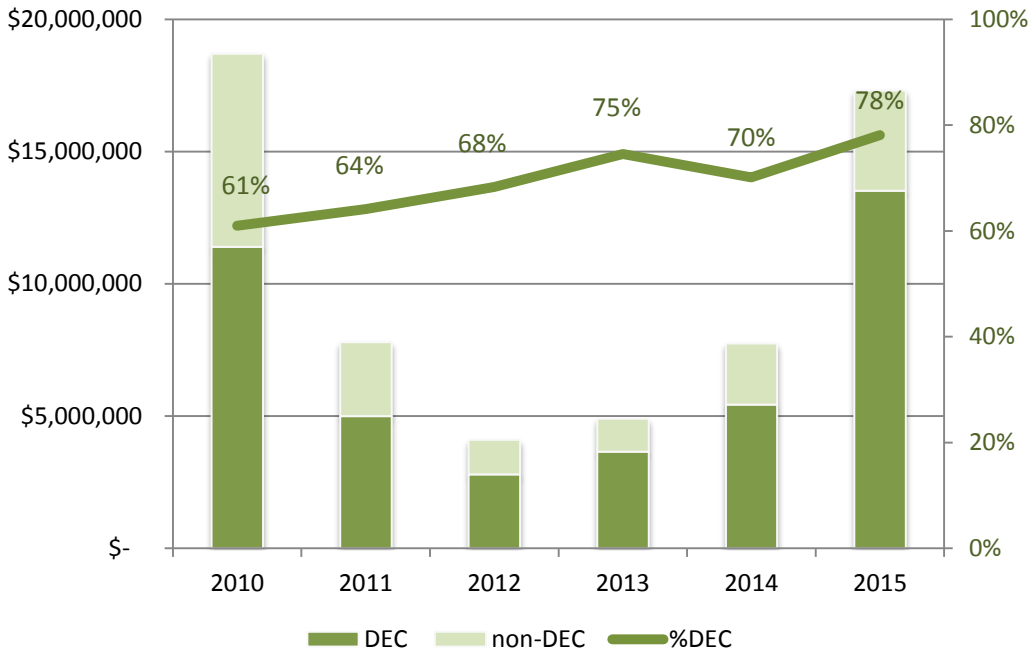


Figure 8 - GRANTS/CONTRACTS: Yearly progress in amounts awarded to DECs



Indicator 12 - Proportion of experts from DECs on TDR advisory committees

The proportion of advisors originating from low- and middle-income disease endemic countries among TDR advisors was stable at 71%. This is above the target of 60% established in 2012.

Figure 9 - EQUITY: Proportion of advisors from low- and middle-income disease endemic countries, 2015

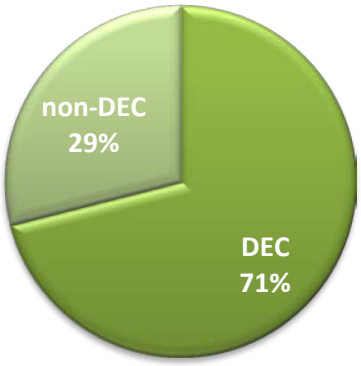
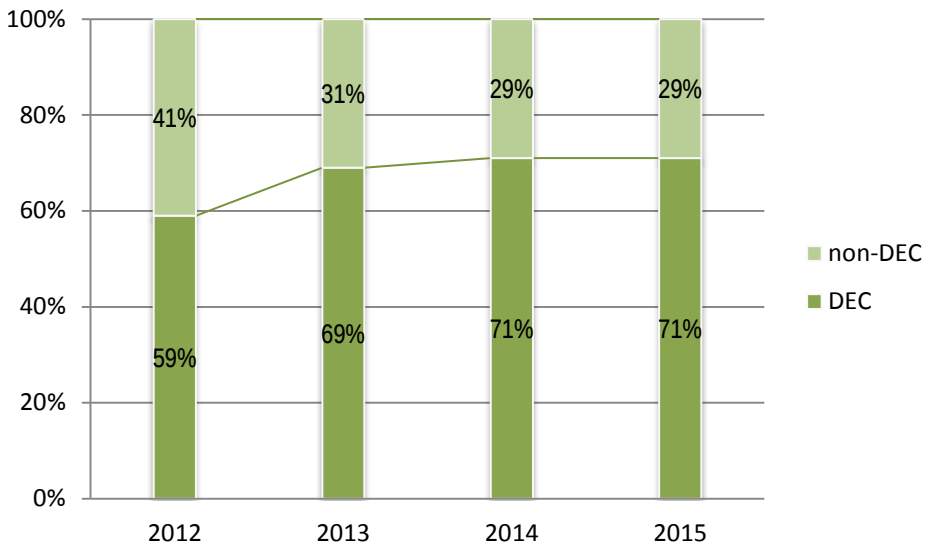


Figure 10 - EQUITY: Proportion of advisors from low- and middle-income disease endemic countries, 2012-2015



Indicator 13 - Proportion of women among grantees/contract recipients (total count and total amount)

The proportion of grants and contracts awarded to women in 2015 was 39% (number of contracts) and 28% (amount), slightly lower compared to 2014 (43% and 28% respectively).

Figure 11 - GENDER: Proportion of grants and contracts awarded to women (% count)

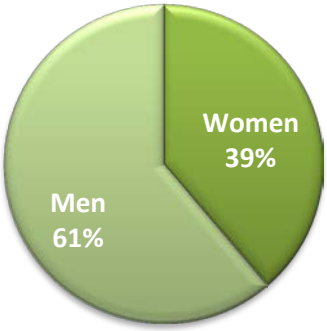


Figure 12 - GENDER: Progress in proportion of grants and contracts awarded to women (% count)

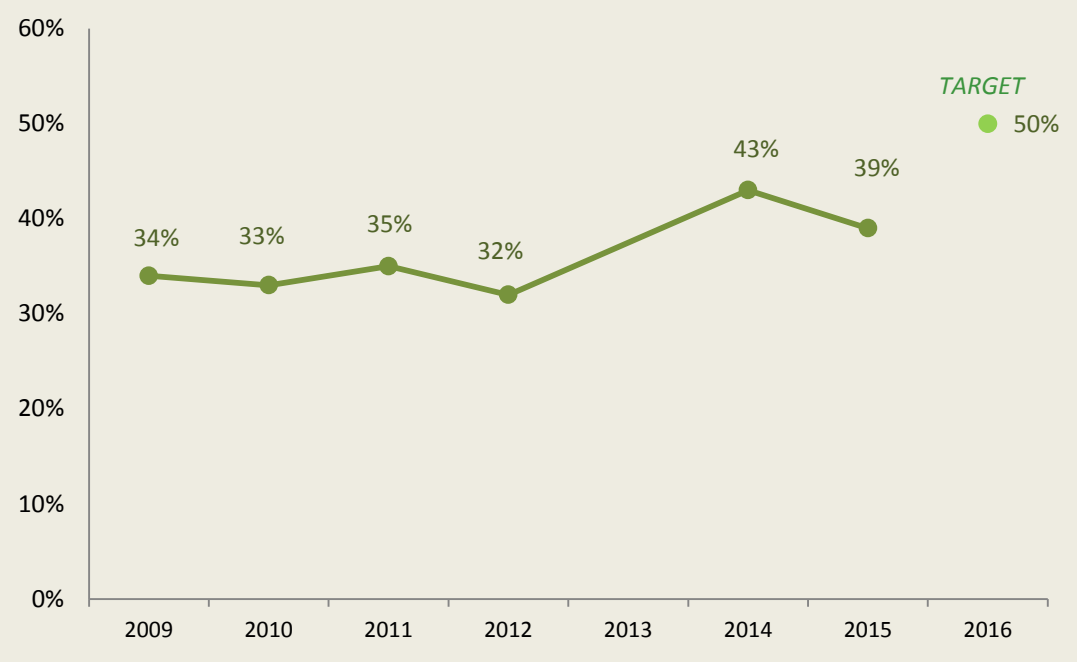
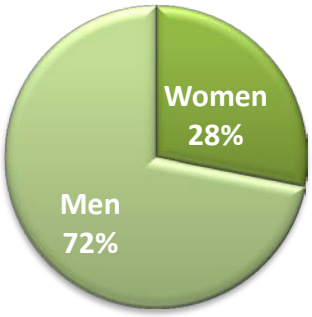


Figure 13 - GENDER: Proportion of grants and contracts awarded to women (% amount)



Indicator 14 - Proportion of women on TDR advisory committees

In 2015, 53% of the members of STAC and the Scientific Working Groups were women. It is the first time since this indicators started being measured that the proportion of women in an advisory role is beyond the target of 50%.

Figure 14 - GENDER: Proportion of women in an advisory role, 2015

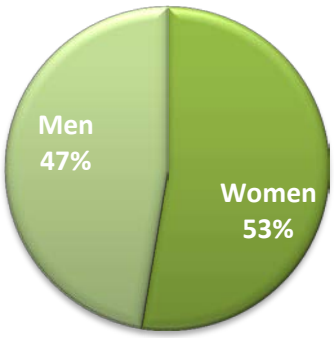
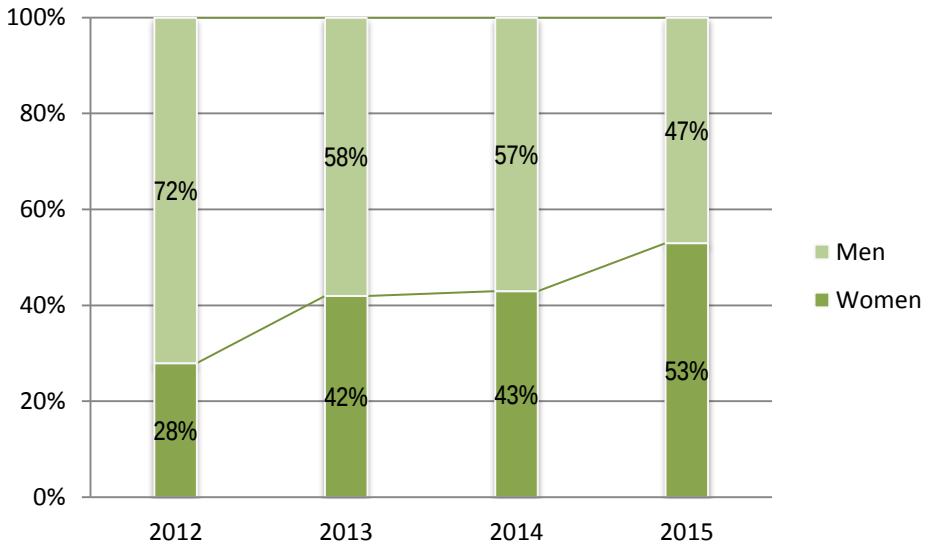


Figure 15 - GENDER: Proportion of women in an advisory role, 2012-2015



Indicator 15 - Proportion of women as first author of peer-reviewed publications supported by TDR (within a calendar year)

In 2015, 39% of first authors of TDR-supported publications were women. Compared to 2014, the results show a decrease (39% vs 47%).

Figure 16 – TDR-SUPPORTED PUBLICATIONS: gender distribution of first authors (n=186), 2015

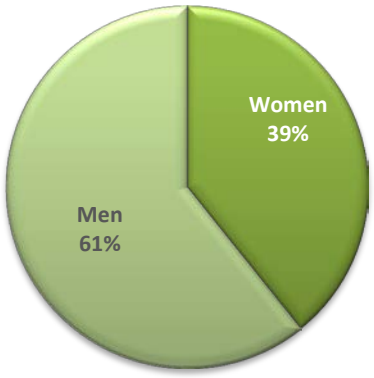
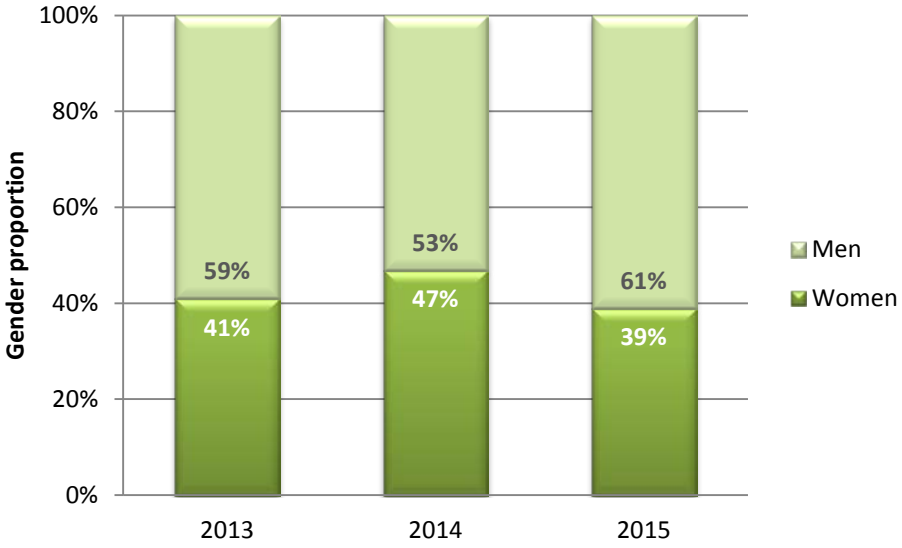


Figure 17 - TDR-SUPPORTED PUBLICATIONS: gender distribution of first authors year-to-year



4.2 Effective partnerships

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
16. Resources leveraged as direct contributions (co-funding, services or in-kind) to TDR projects (examples)	Not measured	tbd	$ 1:1 ($ TDR : $ partners) People 1:17 (TDR : in the field)

Indicator 16 - Resources leveraged as direct contributions (co-funding, services or in-kind) to TDR projects (examples)

In 2015, TDR continued to leverage significant resources from institutions and partners in the field. The types of contribution varied greatly, which makes it more difficult to estimate the dollar value. A detailed table of estimated leverage is available in Annex 4. In general, contributions ranged from technical and expert support, use of facilities, meetings, publication, project co-funding facilitated by TDR contribution, control programme operations, etc. The estimated amount for 2015 is US$ 24.5 million, which means that for each dollar TDR invested directly in operations another dollar came from partners and contributors.

Implementation of the research and capacity strengthening projects TDR is funding requires in general a number of staff besides the Principal Investigator. For the first time TDR piloted an estimate of the number of people working on its projects in the field. This was challenging because of the extent of projects managed by partners, so the estimate is based on a limited number of projects, where the numbers of people could be more easily approximated.

The ratio between the number of TDR secretariat staff and the number of people working on TDR projects in the field was estimated to be 1:17 in 2015. This suggests good value for money and economies of scale made possible by TDR's collaborative working model.

Figure 18 – LEVERAGE: Ratio between number of staff in TDR secretariat and number of people working on TDR projects in the field

Ratio secretariat : field = 1:17

4.3 Sustainability of outcomes

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
17. Number of effective public health tools and strategies developed which have been in use for at least two years	51	67	75 *(+3)*

Indicator 17 - Number of effective public health tools and strategies developed which have been in use for at least two years

Three new tools and strategies that TDR had contributed qualified in 2015 for being considered under this indicator (they have been used for at least two years). A detailed list of TDR contributed tools, strategies and solutions that have been in use for at least two years is available in Annex 3.

4.4 Quality of work

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
18. Proportion of project final reports found satisfactory by peer-review committees	Not measured	>80%	100%

Indicator 18 - Proportion of project final reports found satisfactory by peer-review committees

No project final report was rejected by Scientific Working Groups in 2015, therefore pass rate was 100%.

5. Management performance

5.1 Effective resource mobilization

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
19. Percentage of approved biennial budget successfully funded	78%	≥100%	100%
20. Percentage of income received from multi-year agreements	Not measured	tbd	72%

Indicator 19 - Percentage of approved biennial budget successfully funded

TDR's Joint Coordinating Board, in its June 2013 meeting, approved a 2014-2015 Programme Budget and Workplan that included two budget scenarios: US$ 50 million and US$ 60 million. The available resources in 2014-2015 were US$ 56.2 million.

Indicator 20 - Percentage of income received from multi-year agreements

Overall, in 2014-2015, 72% of funds came from multi-year agreements (two years or longer), as illustrated below.

Both core funding and project specified funding contributed to this result. Multi-year agreements with some of TDR's main contributors such as Belgium, Germany, Sweden, Switzerland, the United Kingdom facilitated a more sound planning process based on a more realistic income forecast. In addition, project-based specified funding ("designated funding") coming from Bill and Melinda Gates Foundation, the European Commission, European Union project consortia and Canada's IDRC have been funding long-term and wide-reach projects that carried into the 2014-2015 biennium.

5.2 Effective management

Key performance indicators	Baseline (2011)	Target (2017)	Progress *(contribution 2015)*
21. Percentage of staff workplans and performance reviews (including personal development plan) completed on time	Not measured	≥90%	87%
22. Proportion of expected results on track or achieved	60%	≥80%	88%
23. Proportion of significant risk management action plans that are on track	Not measured	≥80%	94%

Indicator 21 - Percentage of staff workplans and performance reviews (including personal development plan) completed on time

In 2015, 87% of staff workplans and performance reviews (including personal development plans) were completed on time. In 2014, the measurement showed 90%.

Indicator 22 - Proportion of expected results on track

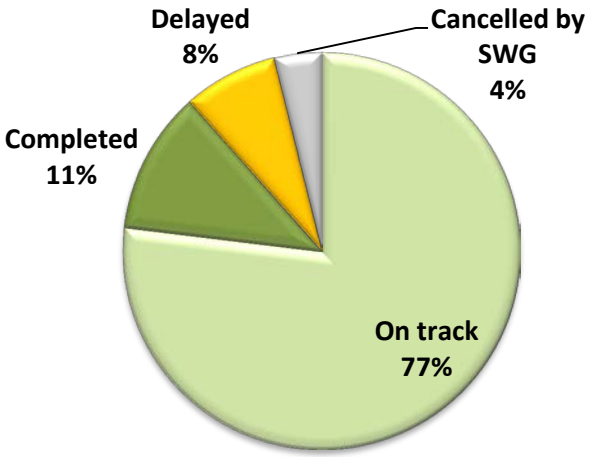
Following a significant improvement in implementation rate at 31 December 2015, the status of the expected results was as follows:

- 20 on track
- 3 successfully completed
- 2 delayed
- 1 cancelled at the recommendation of the Scientific Working Group

The 88% on track or completed represents a marked increase from 69% one year earlier.

The detailed list is available in Annex 2.

Figure 19 - Status of expected results as at 31 Dec 2015



Indicator 23 - Proportion of significant risk management action plans that are on track

There were no notable delays in implementing the risk management actions in 2015.

The risk related to the outdated information management system is being addressed but has been delayed by WHO's IT department decision not to allow business connectivity with its enterprise resource planning system.

During the TDR progress review in October 2015, one additional risk was identified related to a potential risk if the 2018-2023 strategy (to be developed) does not respond to the needs. Actions planned:

- Landscape/stakeholder analysis to be done;
- Effectively learn and benefit from TDR's 6th External Review; and
- Effectively consult with stakeholders when developing the next six-year strategy 2018-2023.

Risk mitigation status:

- Six out of seventeen significant risks identified have been fully addressed and closed out; and
- Eleven significant risks are currently being addressed.

6. Continuous performance improvement: learning from success and failure

To be effective and sustainable, culture change needs to be embedded through an incremental process

- As per JCB recommendations, in 2008 TDR introduced a results based management approach, focusing on outcomes and ensuring systematic planning, monitoring and evaluation. TDR took a step-wise approach to embedding the culture of results, guided by the TDR Performance Assessment Framework that was tested in 2009-2012 and revised in 2012 to support the TDR Strategic Plan 2012-2017. The development of the new strategy 2018-2023 will be an opportunity to revise the framework, link it to the SDGs and enhance the collection of monitoring data by the technical teams in a more systematic way.
- TDR launched its risk management policy in 2012, ahead of the WHO-wide policy. Risks have been identified through a bottom up approach and are mitigated at the Programme and project levels. Following an initial phase of raising awareness and getting familiar with the concept, TDR will now move towards a more sophisticated monitoring of risks, including risk scoring and ranking as relevant.

Measuring TDR's outcomes and demonstrating contribution to global impact

- TDR key performance indicators have been developed in close consultation with the Programme's donors and stakeholders. This has greatly enhanced accountability and transparency, and facilitated communication of results and reporting to core contributors.
- The TDR Performance Assessment Framework that guides planning, monitoring and evaluation, received public praise from donors in various instances.
- The issue of impact attribution versus contribution to outcomes has been successfully addressed. TDR measures its outcomes and demonstrates through qualitative assessment in a coherent manner its contribution to global impact through existing global health indicators.

Enhancing efficiency through a leaner and more agile Programme

- TDR's financial and management processes and systems developed since 2011 ensure the level of flexibility required to anticipate issues and to adjust to new situations effectively.
- TDR's ability to: (i) boost its implementation rate in 2015; (ii) adjust quickly to a sudden decrease of forecast income for 2016; and (iii) identify potential planning issues at the technical level at an early stage, reflects the effectiveness of a number of managerial elements, including:
    - Conservative and realistic income forecast continuously monitored;
    - A successful budget scenario model allowing quick adaptability;
    - Effective cash flow management;
    - Good collaboration with WHO administration, which adjusted processes to TDR's needs (budget ceiling issue resolved, contracts across biennia);
    - Development of a real-time financial monitoring tool allowing: (i) reallocation of funds in a timely manner; and (ii) anticipation of potential financial issues at technical unit level at an early stage; and
    - Focused and sustained staff effort in implementing the workplan and showing greater flexibility to accommodate the most workload-intensive phases

The three technical units, as well as the support units, utilized these improved systems for quick decision-making and prioritization to allow both scaling up and scaling down the teams' portfolio of projects and activities. This was also made possible by an exceptional level of staff commitment during a particularly demanding period of intensive implementation.

- The year 2015 saw an accelerated implementation of projects that were part of the Strategic Development Fund (SDF). The SDF was initially created to allow for smaller, pilot projects to be set up quickly, to allow responding to emergent diseases, foster partnerships or test concepts that would later become part of the core portfolio of projects. One thing learned was that, from the approval of an SDF project until the funding being engaged it took 9 months on average, which was not as short a timeline as expected.
- TDR staff development policy has enhanced staff motivation and skills (1 MBA, 1 MPH, 1 Certificate in IPFM completed; 2 BA business studies, 1 MPH, 2 PhD, 1 Diploma in IPFM ongoing; short courses).

7. Annexes

Annex 1. List of TDR-supported peer-reviewed publications 2015

(Retrieved from PubMed, the list includes 40 SORT IT publications)

1. Abdulla S, Binka F, Graves P, Greenwood B, Leke R, Malik E, et al. Malaria Policy Advisory Committee to the WHO: conclusions and recommendations of sixth biannual meeting (September 2014). Malaria Journal. 2015;14.

2. Abdulla S, Adam I, Adjei GO, Adjuik MA, Alemayehu B, Allan R, et al. Clinical determinants of early parasitological response to ACTs in African patients with uncomplicated falciparum malaria: a literature review and meta-analysis of individual patient data. Bmc Medicine. 2015;13:212.

3. Aboagye-Antwi F, Kwansa-Bentum B, Dadzie SK, Ahorlu CK, Appawu MA, Gyapong J, et al. Transmission indices and microfilariae prevalence in human population prior to mass drug administration with ivermectin and albendazole in the Gomoa District of Ghana. Parasites &Vectors. 2015;8:562.

4. Adjuik MA, Allan R, Anvikar AR, Ashley EA, Ba MS, Barennes H, et al. The effect of dosing strategies on the therapeutic efficacy of artesunate-amodiaquine for uncomplicated malaria: a meta-analysis of individual patient data. Bmc Medicine. 2015;13:66.

5. Al-Amin HM, Elahi R, Mohon AN, Kafi MAH, Chakma S, Lord JS, et al. Role of underappreciated vectors in malaria transmission in an endemic region of Bangladesh-India border. Parasites & Vectors. 2015;8:195.

6. Allam AF, Farag HF, Zaki A, Kader OA, Abdul-Ghani R, Shehab AY. Detection of low-intensity Schistosomamansoni infection by Percoll sedimentation and real-time PCR techniques in a low-endemicity Egyptian setting. Tropical Medicine & International Health. 2015;20(5):658-64.

7. Ameh S, Welaga P, Kabiru CW, Ndifon W, Ikpeme B, Nsan E, et al. Factors associated with appropriate home management of uncomplicated malaria in children in Kassena-Nankana district of Ghana and implications for community case management of childhood illness: a cross-sectional study. Bmc Public Health. 2015;15:458.

8. Ansbro EM, Gill MM, Reynolds J, Shelley KD, Strasser S, Sripipatana T, et al. Introduction of Syphilis Point-of-Care Tests, from Pilot Study to National Programme Implementation in Zambia: A Qualitative Study of Healthcare Workers' Perspectives on Testing, Training and Quality Assurance. Plos One. 2015;10(6):e0127728.

9. Anstey N, Price R, Davis T, Karunajeewa H, Mueller I, D'Alessandro U, et al. The effect of dose on the antimalarial efficacy of artemether-lumefantrine: a systematic review and pooled analysis of individual patient data. Lancet Infectious Diseases. 2015;15(6):692-702.

10. Anstey NM, Auburn S, Baird JK, Battle KE, Bobogare A, Chancellor A et al. Targeting vivax malaria in the Asia Pacific: The Asia Pacific Malaria Elimination Network Vivax Working Group. Malaria Journal 2015; 14: 484-

11. Atia AM, Mumina A, Tayler-Smith K, Boulle P, Alcoba G, Elhag MS, et al. Sodium Stibogluconate and Paromomycin for treating visceral leishmaniasis under routine conditions in eastern Sudan: when will we get a better treatment? Trop Med Int Health. 2015. Epub 2015/10/02.

12. Avong YK, Isaakidis P, Hinderaker SG, Van den Bergh R, Ali E, Obembe BO, et al. Doing no harm? Adverse events in a nation-wide cohort of patients with multidrug-resistant tuberculosis in Nigeria.PLoS One. 2015; 10(3): e0120161.

13. Awadzi K, Opoku NO, Attah SK, Lazdins-Helds JK, Kuesel AC. Diagnosis of O. volvulus infection via skin exposure to diethylcarbamazine: clinical evaluation of a transdermal delivery technology-based patch. Parasites & Vectors. 2015;8:515.

14. Badolo A, Bando H, Traore A, Ko-Ketsu M, Guelbeogo WM, Kanuka H, et al. Detection of G119S ace-1(R) mutation in field-collected Anopheles gambiaemosquitoes using allele-specific loop-mediated isothermal amplification (AS-LAMP) method. Malaria Journal. 2015;14:477.

15. Banjara MR, Kroeger A, Huda MM, Kumar V, Gurung CK, Das ML, et al. Feasibility of a combined camp approach for vector control together with active case detection of visceral leishmaniasis, post kala-azar dermal leishmaniasis, tuberculosis, leprosy and malaria in Bangladesh, India and Nepal: an exploratory study. Transactions of the Royal Society of Tropical Medicine and Hygiene. 2015;109(6):408-15.

16. Barnadas C, Timinao L, Javati S, Iga J, Malau E, Koepfli C et al. Significant geographical differences in prevalence of mutations associated with Plasmodium falciparum and Plasmodium vivax drug resistance in two regions from Papua New Guinea. Malaria Journal 2015; 14: 399-

17. Basso C, da Rosa EG, Romero S, Gonzalez C, Lairihoy R, Roche I, et al. Improved dengue fever prevention through innovative intervention methods in the city of Salto, Uruguay. Transactions of the Royal Society of Tropical Medicine and Hygiene. 2015;109(2):134-42.

18. Bates I, Boyd A, Aslanyan G, Cole DC. Tackling the tensions in evaluating capacity strengthening for health research in low- and middle-income countries. Health Policy and Planning. 2015;30(3):334-44.

19. Bevilacqua M, Rubio-Palis Y, Medina DA, Cardenas L. Malaria Control in Amerindian Communities of Venezuela Strengthening Ecohealth Practice Throughout Conservation Science and Capability Approach. Ecohealth. 2015;12(2):253-66.

20. Bocoum FY, Ouedraogo H, Tarnagda G, Kiba A, Tiendrebeogo S, Bationo F, et al. Evaluation of the diagnostic performance and operational characteristics of four rapid immunochromatographic syphilis tests in Burkina Faso. African Health Sciences. 2015;15(2):360-6.

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22. Bollini M, Casal JJ, Asis SE, Leal ES, Bruno AM. Antimalarial activity of novel imidazoisoquinolinone derivatives correlates with heme binding affinity. Medicinal Chemistry Research. 2015;24(4):1496-503.

23. Brieger WR, Sommerfeld JU, Amazigo UV. The Potential for Community-Directed Interventions: Reaching Underserved Populations in Africa. International Quarterly of Community Health Education. 2015;35(4):295-316.

24. Briet OJT, Huho BJ, Gimnig JE, Bayoh N, Seyoum A, Sikaala CH, et al. Applications and limitations of Centers for Disease Control and Prevention miniature light traps for measuring biting densities of African malaria vector populations: a pooled-analysis of 13 comparisons with human landing catches. Malaria Journal. 2015;14.

25. Campbell-Lendrum D, Manga L, Bagayoko M, Sommerfeld J. Climate change and vector-borne diseases: what are the implications for public health research and policy? Philosophical Transactions of the Royal Society B-Biological Sciences. 2015;370(1665).

26. Caprara A, Lima JWD, Peixoto ACR, Motta CMV, Nobre JMS, Sommerfeld J, et al. Entomological impact and social participation in dengue control: a cluster randomized trial in Fortaleza, Brazil. Transactions of the Royal Society of Tropical Medicine and Hygiene. 2015;109(2):99-105.

27. Catala S, Bezerra CM, Diotaiuti L. Thermal preferences and limits of Triatomabrasiliensis in its natural environment - Field observations while host searching. Memorias do InstitutoOswaldo Cruz. 2015;110(6):793-6.

28. Certain E, Terry RF, Zicker F. Shaping the Research Agenda. PLoS Neglected Tropical Diseases. 2015;9(1).

29. Che-Mendoza A, Guillermo-May G, Herrera-Bojorquez J, Barrera-Perez M, Dzul-Manzanilla F, Gutierrez-Castro C, et al. Long-lasting insecticide-treated house screens and targeted treatment of productive breeding-sites for dengue vector control in Acapulco, Mexico. Transactions of the Royal Society of Tropical Medicine and Hygiene. 2015;109(2):106-15.

30. Cherif MK, Sanou GS, Bougouma EC, Diarra A, Ouedraogo A, Dolo A, et al. Is Fc gamma receptor IIA (Fc gamma RIIA) polymorphism associated with clinical malaria and Plasmodium falciparum specific antibody levels in children from Burkina Faso? ActaTropica. 2015;142:41-6.

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32. Coulibaly YI, Dembele B, Diallo AA, Konate S, Dolo H, Coulibaly SY, et al. The Impact of Six Annual Rounds of Mass Drug Administration on Wuchereriabancrofti Infections in Humans and in Mosquitoes in Mali. American Journal of Tropical Medicine and Hygiene. 2015;93(2):356-60.

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Annex 2. Progress on the TDR's current portfolio of expected results – Status as at 31 December 2015

Expected Result	Status 2015
Support adequate country response to epidemic challenges: evidence-based guidance for dengue outbreak detection & response	On track
Integrated capacity building and research for lab-to-field translation of putative resistance markers	Cancelled by SWG
Vulnerability to emerging drug resistance and its consequences for control programmes	On track
Facilitate innovation to generate tools to achieve control programme objectives	On track
Strengthen evidence base for policy decisions and programme implementation by maximizing utility of available data	On track
Safety data for policy decisions	On track
Intervention & Implementation research to inform policies for the elimination of Visceral leishmaniasis	On track
Community-based scheduled screening and treatment of malaria in pregnancy for improved maternal and infant health: a cluster-randomized trial (COSMIC)	On track
Improved management of febrile illnesses	On track
Structured Operational Research and Training Initiative (SORT IT)	On track
Strategic support to WHO regional activities : the regional training centres	On track
WHO Regional Office collaboration and small grants	On track
Targeted research training grants in low-and middle-income countries	On track
Research Capacity Strengthening and Knowledge Management impact grants to improve disease control	On track
Advanced training in Clinical Product Development (Career Development Fellowship grants)	On track
TDR alumni network: piloting the concept and supporting system	Delayed
Knowledge management priorities and gaps in implementation research, research capacity strengthening and research & development	On track
Capacity strengthening to bring research evidence into policy	On track
Collaborative networks for harmonization of policies and practices	On track
Strategic engagement in global health initiatives	Completed
Promoting research for improved community access to health interventions in Africa	Completed
Improved Chagas and dengue disease control through innovative ecosystem management and community-directed interventions	Completed
Population health vulnerabilities to VBDs: increasing resilience under climate change conditions	On track
Implementation research in support of the WHO Global Strategy for dengue prevention and control	Delayed
Application of social entrepreneurship for the prevention and control of infectious diseases of poverty	On track
Assessment of insecticide resistance mechanisms in malaria vectors and their impact on control failure	On track

Annex 3. Tools and strategies developed or contributed by TDR and that have been in use for at least 2 years

#	Year	Tools / strategies / solutions
1.	**1981**	*Leprosy - WHO recommendation for use of multidrug therapy (MDT) for leprosy following its registration in 1980 by Ciba-Geigy.*
2.	**1983**	*Schistosomiasis* - Diagnostic urine-filtration technique in disease control use
3.	**1983**	*African trypanosomiasis* - Card agglutination diagnostic test for trypanosomiasis (CATT) in disease control use.
4.	**1987**	*Onchocerciasis* - Ivermectin registered by Merck, and donation programme begins
5.	**1989**	*Chagas disease* - Improved agglutination blood test for rapid screening of transfusion blood in disease control use.
6.	**1990**	*African trypanosomiasis* - Eflornithine® registered by Marion Merrell Dow.
7.	**1993**	*Onchocerciasis* - Rapid epidemiological mapping of onchocerciasis (REMO) in disease control use.
8.	**1994**	*Filariasis* - Single-dose treatment with DEC or ivermectin is shown to be an appropriate treatment regimen, providing the basis for a new global control strategy based on mass drug administration.
9.	**1994**	*Leishmaniasis - Direct agglutination diagnostic test (DAT) and standard leishmania skin test antigen in disease control use.*
10.	**1994**	*Chagas disease, sleeping sickness and leishmaniasis* - Parasite genome sequencing project launched in meeting in Brazil, co-sponsored by TDR and FIOCRUZ. Sequences published in 2005.
11.	**1994**	*Onchocerciasis* - Effectiveness of mass drug administration with ivermectin in preventing posterior segment eye disease, visual impairment and blindness demonstrated in longitudinal studies in Africa.
12.	**1994**	*Visceral leishmaniasis* - Liposomal amphotericin B registered by NeXstar.
13.	**1995**	*Schistosomiasis* - Method for rapid identification of urinary schistosomiasis in highly endemic communities validated and in control use.
14.	**1995**	*Onchocerciasis* - Importance of onchocercal skin disease determined, providing the basis for extending onchocerciasis control to forest areas in Africa.
15.	**1996**	*Lymphatic filariasis* - Drug delivery strategies developed for lymphatic filariasis elimination in Africa.
16.	**1996**	*Schistosomiasis* - Guidelines for diagnosis of female genital schistosomiasis completed.
17.	**1996**	*Malaria* - Final results of large field trials of insecticide-treated bednets involving 400 000 people in Ghana, Burkina Faso, Kenya and The Gambia demonstrate that insecticide-treated bednets could reduce overall childhood mortality by around 20%.
18.	**1996**	*Onchocerciasis* - Community-directed treatment (ComDT) of onchocerciasis with ivermectin becomes the mainstay of APOC mass drug administration delivery strategies following multi-country field studies testing the model's efficacy.

#	Year	Tools / strategies / solutions
19.	**1997**	*Leprosy* - Improved multidrug therapy based on rifampicin, oflaxacin and minocycline (ROM) used for leprosy control.
20.	**1997**	*Malaria* - A TDR-supported pan-African conference on research in Dakar, Senegal decides to create the Multilateral Initiative on Malaria.
21.	**1998**	*Malaria* - Home management of malaria approach adopted as a strategy by WHO.
22.	**1998**	*Lymphatic filariasis* - Safety demonstrated for albendazole as treatment.
23.	**2000**	*Lymphatic filariasis* - Rapid mapping of filariasis in control use.
24.	**2000**	HINARI, a partnership for Health InterNetwork Access to Research Initiative, is launched with TDR as part of the partnership in the area of research capacity building.
25.	**2000**	*Malaria* - Germline transformation of *Anopheles* mosquitoes.
26.	**2000**	WHO published the Operational guidelines for ethics committees that review biomedical research
27.	**2001**	TDR initiates several partnerships for developing capacity in bioinformatics.
28.	**2001**	*Malaria* - Evidence for policy – Reducing potential for artemisinins resistance via use of artemisinins combination therapy (ACT) in uncomplicated malaria
29.	**2001**	*Good laboratory practice:* Quality practices for regulated non-clinical research and development
30.	**2002**	*Malaria* - Genome sequencing of *Anopheles gambiae* completed by TDR-fostered consortium.
31.	**2002**	*Visceral leishmaniasis* – Miltefosine registration as first oral therapy against VL
32.	**2002**	The Strategic Initiative for Developing Capacity in Ethical Review (SIDCER) is inaugurated.
33.	**2002**	*Workbook for Investigators*
34.	**2003**	*Malaria* – Unit-dose packaging of Coartem® to ensure adherence and suitability for home management of malaria in collaboration with Novartis.
35.	**2003**	*Lymphatic filariasis* - Longitudinal studies produce evidence that mass drug administration would be required for more than 4–6 years in most places to eliminate lymphatic filariasis.
36.	**2003**	*Sexually transmitted diseases* - TDR-led evaluation of rapid syphilis diagnostic tests led to those with acceptable performance being placed on the WHO procurement list at negotiated pricing for member states.
37.	**2004**	*African trypanosomiasis* - International *Glossina* Genomics Initiative (IGGI) to fully sequence the tsetse fly genome launched.
38.	**2004**	*Malaria* - Regulatory label extension is obtained for the use of Coartem® (oral treatment of artemether + lumefantrine) in infants and young children above 5 kg in weight.
39.	**2005**	*Visceral leishmaniasis* - The health ministers of India, Nepal and Bangladesh sign a Memorandum of Understanding pledging to eliminate kala azar (visceral leishmaniasis) from their countries by 2015.

#	Year	Tools / strategies / solutions
40.	**2005**	*Visceral leishmaniasis* - Validation of RK39 as a diagnostic for use in India but not in Africa, incorporated into visceral leishmaniasis elimination programme.
41.	**2005**	*Onchocerciasis* - RAPLOA (rapid assessment procedure for determining areas of *Loa loa* endemicity) developed, validated and incorporated into disease control use.
42.	**2005**	*Malaria* - Results from studies in Ghana indicate that the proportion of caregivers using ACTs correctly in terms of promptness, dosage and number of days is more than 90%, leading to reduced delay in seeking treatment.
43.	**2005**	WHO published the Operational Guidelines for the Establishment and Functioning of Data and Safety Monitoring Boards
44.	**2005**	*Effective project planning and evaluation for biomedical and health research*
45.	**2006**	*Malaria* - Evidence for pre-referral treatment use provided in WHO Malaria Treatment Guidelines
46.	**2006**	*Dengue* - Multi-country studies validating pupal productivity survey methods for dengue vector control are published, demonstrating method effectiveness.
47.	**2006**	Initial results from multi-country studies demonstrate potential for expanding the community-directed treatment strategy for ivermectin, established under APOC, to deliver a broader, integrated set of interventions, including insecticide-treated bednets
48.	**2007**	*Leishmaniasis* - Paromomycin is registered for use in India through the Institute for One World Health.
49.	**2007**	*Tuberculosis* - WHO Policy recommending reduction of the number of smears for the diagnosis of tuberculosis and defining a new sputum smear-positive case
50.	**2008**	Community-directed interventions (CDI), an integrated approach for improved access to vital drugs and preventive measures, including for malaria, in remote African communities.
51.	**2008**	*Schistosomiasis* - Evidence for dosage of Praziquantel for the control of schistosomiasis
52.	**2008**	*Malaria* - Mefloquine-artesunate combination drug has been developed for malaria treatment and introduced in Brazil.
53.	**2008**	*Dengue* - Dengue diagnostics test available at negotiated price (new ones in evaluation)
54.	**2008**	*Tuberculosis* - WHO Policy on line probe assays and second-line drug susceptibility testing
55.	**2010**	*African trypanosomiasis* - the tsetse fly genome sequenced, assembled and annotated by the International Glossina Genomics Initiative (IGGI) Consortium
56.	**2010**	WHO guidelines recommend *rectal artesunate* in paediatric populations with severe malaria living in remote locations in rural Africa and Asia
57.	**2010**	WHO recommendation against the use of *immunodiagnostics tests for active or latent TB* infection
58.	**2010**	*TB fluorescence microscopy*. Research results informed the introduction of LED-FM in high burden countries in Nov 2010

#	Year	Tools / strategies / solutions
59.	**2010**	A simplified, revised and evidence-based *disease classification system for dengue* adopted in Latin-American and Asian countries
60.	**2010**	*Visceral Leishmaniasis (VL) active case detection* methods applied at large scale by control programmes in the Indian subcontinent
61.	**2011**	*Malaria rapid diagnostics tests* evaluation rounds have led to quality improvements and the RDTs have become part of the overall strategy for malaria: Test, Treat, Track.
62.	**2011**	*An evidence-based strategy to support the elimination of visceral leishmaniasis* is being used in the Indian subcontinent
63.	**2011**	*New synthetic routes for enantiomerically-pure L-praziquantel* identified in collaboration with the Australian Research Council; used to develop a new pediatric formulation.
64.	**2011**	*Planning, Monitoring and Evaluation Framework for Capacity Strengthening in Health Research.* ESSENCE Good Practice document series
65.	**2012**	*Five keys to improving research costing in low- and middle-income countries,* ESSENCE Good Practice document series
66.	**2012**	*Optimized and standardized trapping and bait technology for relevant vectors of HAT*
67.	**2012**	*Community-based ecosystem management interventions* for better disease prevention of dengue in Asia and of dengue and Chagas disease in Latin America
68.	**2012**	*HAT-Trick*, a decision support system for improved vector control intervention methods of human African trypanosomiasis (HAT)
69.	**2012**	*Framework for the introduction of rapid tests on sexually transmitted infections into country programmes*
70.	**2012**	*Dengue vector control methods and strategies*, combining targeted breeding containers and insecticide-treated materials
71.	**2012**	Evidence contributing to the WHO and UNICEF *Integrated Community Case Management (iCCM) strategy to reduce childhood mortality* through community case management of malaria, pneumonia and diarrhoea
72.	**2012**	*T3: Test. Treat. Track.* Evidence on feasibility and costs of universal coverage diagnostic, testing and antimalarial treatment
73.	**2012**	Guidance framework developed for *testing efficacy and safety of genetically-modified mosquitoes* for malaria and dengue control
74.	**2012**	*The Global Report for research on infectious diseases of poverty* is used to inform EC's strategic direction in addressing neglected diseases of poverty
75.	**2013**	*Evidence from clinical trials of the efficacy and safety of multiple-dose and single-dose regimens with liposomal Amphotericin B* informed policy decisions in Bangladesh and Nepal.

Annex 4. Leverage estimate in 2015

TDR Expected Result	Partners' contribution			
	Partner organization's name	2015 contribution	Approx. number working on the project in the field	Contribution type
TOTAL		**24 665 000**	**515**	
Vectors, environment and society		**5 700 000**	**130**	
Evidence on impact of climate change on vector-borne diseases in Africa	Sites / institutions in Botswana, Côte d'Ivoire, Kenya, Mauritania, South Africa, Tanzania and Zimbabwe; WHO PHE; IRI	1 300 000	40	Technical support, facilities, laboratory work, MSc and PhD students, co-funding
Evidence on community-based strategies to enhance access to control interventions in Africa	Governmental and other research institutions of Burkina Faso, Ghana, Malawi, Nigeria, Uganda and local entities as well as community groups.	300 000	25	Community support, control programmes efficiencies, third party site funding
Social innovation in healthcare delivery	Oxford University, University of Cape Town	700 000	15	Technical support, joint calls for proposals, communication, social media, reviewers group
Community-based dengue vector control in Latin America and the Caribbean urban settings	Research teams in countries; MoH, developers in the participating countries; WHO NTD	2 000 000		Governments and third party site funding for interventions, health information technology (smartphone applications)
Assessment of insecticide resistance mechanisms in malaria vectors	AFRO PHE, WHO GMP, WHO NTD, - National malaria control programmes in Benin, Mali, Nigeria Funding of ongoing malaria control programmes by donors such as BMGF, the Global Fund, PMI, and bilateral cooperation.	1 400 000	50	Contribution of control programs, community health workers and laboratory technicians
Intervention and implementation research		**13 200 000**	**125**	
Visceral leishmaniasis (VL) elimination in Southeast Asia: case management, vector control and diagnostic policies	RMRI, Patna, India; ICDDR-Bangladesh, B P Koirala Institute of Health Sciences, Dharan, Nepal, DNDi	500 000		Site co-funding, technical support, bednets
Structured Operational Research and Training Initiative (SORT IT)	WHO Regional and Country Offices, national public health programmes, national health institutes, the International Union Against Tuberculosis and Lung Diseases, Médecins Sans Frontières (MSF).	800 000	60	Technical support, staff time, support for research, data management, meetings, co-funding of projects, publications
Community-based scheduled screening and treatment of malaria in pregnancy (Cosmic)	Koninklijk Instituut voor de Tropen, The Netherlands; Prins Leopold Instituut voor Tropische Geneeskunde, Belgium; Centre Muraz, Burkina Faso; Centre de Recherches Entomologiques de Cotonou, Benin; Medical Research Council, The Gambia; Imperial College of Science, Technology and Medicine, United Kingdom; WHO GMP and WHO MCH	800 000	20	Staff from the MoH and WHO country offices to support the policy panel discussions, implementation and documentation.
Evidence to improve outbreak detection and response	IDAMS consortium: Germany (U. Heidelberg), UK (LSTM, Oxford Univ, Clinical Research Unit Oxford in Vietnam), Malaysia (Univ Malaya), Indonesia (Gadja Mada Univ), Sri Lanka (Angkor Hospital), Cuba (IPK), El Salvador (Hosp Benjamin Bllom), Brazil (Univ Estadual do Ceara), Ghana	600 000		Research and technical support; field testing; network development; guidelines preparation.

TDR Expected Result	Partners' contribution			
	Partner organization's name	2015 contribution	Approx. number working on the project in the field	Contribution type
	(INDEPTH network), Netherlands (Internat Red Cross).			
Facilitating innovation to generate tools for control programmes	Medicines Development for Global Health (MDGH)	10 000 000		Transition of moxidectin allowed the Australian NGO to raise USD 10 Million to continue moxidectin development to FDA registration.
Strengthen evidence base for policy decisions	Research institutes and WHO control programmes	425 000	15	Research support; guidelines/guidance documents; technical support; consultations with relevant stakeholders.
Safety data for policy decisions	Researchers and experts, WHO departments	50 000	20	Technical expertise
Improved management of febrile illnesses.	Research institutions in Burkina Faso, Ghana, Malawi, Nigeria, Uganda and community groups.	25 000	10	Use of structure and equipment at site. Lab assays.
Research capacity strengthening/knowledge management		**4 285 000**	**233**	
Regional Training Centres	WHO regions, training centres supported by TDR (Colombia, Kazakhstan, Philippines and Indonesia)	670 000	28	Development of courses, course fees, additional grants leveraged
Education grants (MSc, PhD)	Host Institutions: J.P Grant School of Public Health BRAC University BANGLADESH, Universidad de Antioquia COLOMBIA, University of Ghana, Univesitas Gadja Mada INDONESIA, American University of Beirut LEBANON, University of The Witwatersrand SOUTH AFRICA, University of Zambia.	250 000	140	Partnerships for trainees in countries/regions. Partnerships with TDR cosponsors and relevant global health initiatives as hosts for short-term attachment of advanced career grantees.
Small regional grants	WHO African Regional Office, Eastern-Mediterranean Regional Office	110 000	2	Technical support, staff time of regional office focal points, reviewers from regions and meetings, matching funds
Short-term impact grants to improve disease control	Host institutions	240 000	50	Partnerships for mentoring with TDR alumni. Linkages with co-sponsors and relevant global health initiatives to support short-term attachments for grantees.
ESSENCE for Health Research	Wellcome Trust, ESSENCE members	250 000	1	Technical expertise, consultant support, document development fees, consultation meetings
Harmonized stakeholder-endorsed research agenda	Creation of the Global Health R&D Fund administered by TDR; HTM, WHO Global Observatory on Health R&D, Alliance HPSR, funders interested in IR/OR (e.g. ESSENCE members)	2 000 000		Technical support, meetings
Career Development Fellowships	WHO Essential Medicines & Pharmaceutical policies; IFPMA; pharmaceutical companies; PDPs; public research institutions.	630 000	5	Host institutions as in kind support
TDR Global - grantees and experts network	Advisors, experts, Regional Training Centres	25 000	7	Technical support, expert advice, independent review
Capacity strengthening to bring research evidence into policy	WHO KMS and its Evipnet program with their regional networks. AHPSR, WHO HTM, WHO ROs. External funding agencies	60 000		Support capacity building in data sharing and the development of new platforms as appropriate.

TDR Expected Result	Partners' contribution			
	Partner organization's name	2015 contribution	Approx. number working on the project in the field	Contribution type
Strategic engagement in global health initiatives	Key Global Health Research and Global Health initiatives	50 000		GHIs to co-fund some of the activities
Strategic Development Fund		**1 480 000**	**27**	
Advanced diagnostics course	Fondation Mérieux, the Bill & Melinda Gates Foundation, The US Global Emerging Infections Surveillance Program, and Canadian IDRC	300 000		Personnel, facilities, co-funding
Ethics: enhanced informed consent form and quality of ethics review	SIDCER, FERCAP, PABIN, University of Nagasaki,	300 000	7	Technical support, expertise volunteered, travel, ethics review support, PhD student, volunteer surveyor time, testing
Malaria genome data sharing	University of Jerusalem	500 000	1	Technical support
Improving the careers of women research scientists in infectious diseases of poverty	Nine groups of women researchers in nine African countries	300 000	9	Governments and third party site funding for interventions, health information technology (smartphone applications)
Malaria eradication forum	Swiss Tropical and Public Health Institute	80 000		Contribution of control programs, community health workers and laboratory technicians
Promote collaboration between MoH and academic institutions in DECs	Noguchi Memorial Institute for Medical Research, University of Ghana, Accra, Ghana		10	Project design, technical support, infrastructure, project implementation, data management and analysis

Annex 5. TDR contributors to the 2014-15 biennium

TDR is able to conduct its work thanks to the commitment and support from a variety of funders. These include our long-term core contributors from national governments and international institutions, as well as designated funding for specific projects within our current priorities.

Contributor	Total for the biennium 2014-15 (US$) as at 31 Dec 2015
Core contributors	
Belgium	4,076,087
China	165,000
Cuba	7,500
Germany	1,631,105
Ghana	75,000
India	110,000
Japan	470,000
Luxembourg	2,513,319
Malaysia	50,000
Mexico	30,000
Norway	3,377,406
Panama	14,000
Portugal	63,532
Spain	61,958
Sweden	10,401,755
Switzerland	3,802,094
Thailand	92,366
Turkey	10,000
United Kingdom of Great Britain and Northern Ireland	7,633,587
World Bank	2,500,000
World Health Organization	1,800,000
Sub-total	38,884,709
Contributors providing specific project funding	
Bill & Melinda Gates Foundation	2,905,385
European Commission	1,250,137
International Development Research Centre (IDRC), Canada	4,352,301
United Nations Development Programme (UNDP)	1,407,270
U.S. Agency for International Development (USAID)	1,215,251
Others	202,508
Sub-total	11,332,852
TOTAL CONTRIBUTIONS	50,217,561

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Sida – Swedish International Development Cooperation Agency
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Belgium
Schweizerische Eidgenossenschaft / Confédération suisse / Confederazione Svizzera / Confederaziun svizra – Swiss Agency for Development and Cooperation SDC
Norwegian Ministry of Foreign Affairs
The Government of the Grand Duchy of Luxembourg – Ministry of Foreign and European Affairs – Directorate for Development Cooperation and Humanitarian Affairs
The World Bank – IBRD • IDA
World Health Organization
BMZ – Federal Ministry for Economic Cooperation and Development
厚生労働省 – Ministry of Health, Labour and Welfare – Japan
China
Ministry of Health and Family Welfare
Thailand
Ministry of Health – Republic of Ghana
Governo de Portugal – Ministério da Saúde
Gobierno de España – cooperación española
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