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TDR – Sixth External Review

Final External Review Report

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Conflicts of interest

The team are unaware of any conflicts of interest. Liz Ollier led the team undertaking the Fifth External Review and was part of an internal review of grants schemes and regional training centres carried out in 2015. Samuel Franzen previously worked for the Global Health Network (University of Oxford), which has collaborations with the Special Programme for Research and Training in Tropical Diseases (TDR), but he had no direct involvement with TDR. No other team member has undertaken any work for TDR, nor for an organisation receiving funding from TDR.

Executive summary and recommendations

The last five years have been a time of major change, rationalisation and refocussing for the Special Programme for Research and Training in Tropical Diseases (TDR). This was a challenging task and it is evident that the organisation has largely achieved its goals and has regained its position as a respected player in the field. Much of the credit for this must go to the new director, together with key members of his team. This was recognised by all interviewees.

The review team has been able to undertake a detailed examination of most aspects of the work of TDR and has identified a number of issues and recommendations, which are largely operational. These are documented in the appropriate portions of this report**.**

The review was asked to consider the strategic direction of TDR and its specific niche, in order to contribute to the strategy for the period 2017 onwards.

A number of strategic themes have emerged and these can be summarised as follows:

Strategic themes

TDR's niche

TDR has refocused its work away from contributing to product research and development and has identified the need to support the translation of innovations to achieve health impact in countries where infectious diseases of poverty are endemic.

TDR has moved from being an organisation which was actively involved in research, including product development, to one which is a convenor, facilitator, knowledge manager and commissioner of research and innovation, with a prime focus on implementation research. Given the resources available, including staff, this is the most appropriate role in order to deliver long-term impact and is in line with its status as a special programme of the World Health Organization (WHO). There is no other body fulfilling this role at present.

Whilst the focus on implementation research is widely supported, there are still some stakeholders who do not believe that this is a permanent or long-term direction for TDR. This may not be because they disagree with the focus: some expressed the view that the change was pragmatic, related to TDR's funding issues. They also felt that a significant (and unique) level of knowledge resided in TDR, which was not available elsewhere in WHO. It will be important for the next strategy document to confirm long-term focal areas so that there is a clear and shared understanding of TDR's core purpose.

There remains a lack of clarity about the definition of intervention and implementation research (IIR). This is partially because globally there are several different interpretations. It is clearly not possible for TDR to broker a universally accepted definition but the next Strategic Plan will need to be explicit about the definition the organisation is using.

TDR has integrated environmental and community issues into supporting research related to diseases of poverty in a way which is in line with the Sustainable Development Goals (SDGs) and current development partner priorities. In its capacity building workstream, it has moved towards providing support by building capacity in individuals, teams and institutions so they can identify and address bottlenecks to implementation, and make research-based decisions. Whilst its staff supported health systems issues during the Ebola outbreak, TDR has recognised that it can contribute most to outbreaks by acting as a convenor and technical expert to identify and support the research needs identified during outbreaks. A good example of this was the joint grant with the European and Developing Countries Clinical Trials Partnership (EDCTP) to build research capacity related to Ebola.

TDR is widely recognised as a well-managed organisation with improving management systems. One role it has increasingly played is as a secretariat or convenor for initiatives involving a number of players (e.g. the Enhancing Support for Strengthening the Effectiveness of National Capacity Efforts (ESSENCE) for Health Initiative) or as a fund manager (the Health Product Research and Development Fund (HPRDF)). Taking on these responsibilities provides TDR with visibility and status but there are risks attached.

There are several risks associated with the proposed HPRDF which will require detailed risk assessment and mitigation. The first is the risk of funding being transferred from TDR to the HPRDF by donors. Secondly, the impression may be given that TDR is back working in the field of product research. TDR has spent the last four years re-establishing itself, moving away from product development, and this development risks giving stakeholders the impression that they are returning to this field. Thirdly, there are reputational risks should any of the HPRDF's workstreams be unsuccessful as, although TDR has no technical input, TDR may be tarnished by association.

Currently, acting as the secretariat for ESSENCE and other similar initiatives is absorbing a considerable portion of the time of senior managers and it is desirable that inputs are fully costed (including identifying the opportunity costs). Adequate funding needs to be provided and it is also desirable to undertake a skill mix exercise to identify administrative functions which could be delegated to administrative support staff or outsourced on short-term contracts, thus minimising risk.

The focus of TDR's three current workstreams are all considered relevant by the stakeholders interviewed and it is recommended that they should be continued in the next strategic period. TDR must reinforce its agreed focal areas and make clear the fields it will not work in for the foreseeable future. TDR also provides a secretariat function for a number of initiatives and this seems appropriate as long as a number of identified risks can be mitigated.

Capacity building

Whilst TDR's contribution is not duplicative in relation to other players supporting research and innovation, there are organisations hosted by WHO that are building capacity in implementation research, albeit in other health sectors (the Special Programme of Research, Development and Research Training in Human Reproduction (HRP) in reproductive health and the Alliance for Health Policy and Systems Research (AHPSR) in health policy and systems). Whilst there has been some joint working (e.g. the development of the Implementation Research Toolkit), this has not been optimised and there is a danger of slightly different approaches and unnecessary overlap.

Given that a common group of funders support two special programmes hosted by WHO (TDR and HRP) and the AHPSR, an argument can be made for working towards a common approach in the next strategic period and possibly a common capacity building unit serving all three programmes. The core competences for such a unit would need developing but they should certainly include skills in grant management (increasingly providing funding through institutions rather than direct to individuals), an understanding of education and learning, institutional standard setting and monitoring, as well as implementation research and the specific health disciplines.

Implementation research is a relatively new concept and there are relatively few universities and centres offering courses in this field. Working together it should be possible to develop the capacity and capability of a global network of institutions that can support the development of common elements of implementation research as well as its application in specific health contexts, such as infectious diseases of poverty.

Consideration should be given to the further development of the TDR Global database to support a community of individuals who have an interest, and expertise, in implementation research. This community might be wider than simply those with a knowledge of its application in infectious diseases of poverty. There would seem to be opportunities to support this community, either separately, as TDR alone, or with HRP and AHPSR, or in conjunction with organisations such as Health Systems Global. Ultimately, it can be envisaged that this community might benefit from dedicated knowledge resources, including perhaps a journal, a common website and newsfeed and regular learning/ dissemination/ networking events, perhaps regionally.

Partnerships

TDR has a small secretariat which works with a wide range of partners, both formal and informal.

It is evident that relationships with disease control programmes within WHO are significantly closer than in 2011, and the proposals indicated above, to work jointly in capacity building with HRP and AHPSR, could also result in greater synergies and some improved efficiency.

There would also seem to be opportunities for complementary working with the Evidence-Informed Policy Network (EVIPnet). One could envisage a continuum of support, with individual teams initially working with EVIPnet to acquire knowledge and skills in systematic reviews, then using the briefs produced to develop evidence-based policy and, finally, being supported in implementation research methodologies by TDR to implementation.

TDR has acted as convenor and administrative host to a number of partnerships and multi-agency initiatives. This builds on the organisations' strengths and increases their profile. However, there are significant risks, both relating to association with the organisations and to the work absorbing excessive resources.

Maintaining the commitment of the co-sponsors

TDR has been co-sponsored since its inception in 1974. This has provided the organisation with a degree of profile and status. The role of the co-sponsors has always been difficult to quantify as it is not necessarily related to financial contribution, but rather to mutual advantage. In some cases (e.g. WHO), the mutual advantage is evident and ongoing, but that may not be the case at all times for the other three co-sponsors; United Nations Development Programme (UNDP), United Nations Children's Fund (UNICEF) and the World Bank.

Over time, the priorities of the co-sponsors change and synergy with TDR's work will therefore increase or decrease accordingly. Co-sponsors are unlikely to be in a position to contribute significantly unless they can see some complementarity. Good examples of this complementarity are the Access and Delivery Initiative, which is led by UNDP, working in partnership with TDR and PATH (formerly the Program for Appropriate Technology in Health), and work on integrated community case management with UNICEF.

An exercise has recently been undertaken to identify the roles of the co-sponsors but, despite some clarification being provided, there seems to be a need to recognise the difficulty of maintaining their commitment and to approach the issue from the point of view of an agenda for mutual benefit recognising that some organisations feel that they have to be involved with a large number of similar partnerships. A recent workshop took this approach but interviews suggest that not all co-sponsors recognise complementarity (such as the work undertaken by TDR in respect of febrile children). If mutual benefit cannot be achieved, there is a risk that some organisations may withdraw and this would have an impact on the memorandum of understanding (MOU) under which TDR operates.

Managing the workstreams

The TDR Secretariat is widely seen, particularly in WHO, as efficient and well managed. The finance function has been strengthened and management systems have been introduced. Some of these (e.g. risk management) have not yet been fully implemented but this is recognised. However, both the Portfolio and Programme Management (PPM) team and the three workstream teams are seriously adversely affected by the absence of a project management system that works to individual grant level. As a result of the absence of a dedicated system such as CONNECT, a system designed by TDR and HRP and waiting for WHO's approval to be linked to WHO management system, management information is inadequate, grant applicants are disadvantaged and TDR's reputation is damaged. Whilst an interim solution has been found, this is transaction heavy and not embedded in technical workstreams.

It is important that organisational structure follows function but the current management of the three workstreams is not of optimum efficiency. The team leaders all come from technical backgrounds and, perhaps inevitably, have less interest in, and time to dedicate to, management. There is an argument for creating an overarching managerial position over two or more workstreams and reallocating the current team leaders more time to devote to technical inputs.

In the next strategic period there is going to be a major challenge for TDR in regard to mobilising resources. The responsibility for this is currently with a senior manager who carries an excessively large portfolio. There is an argument for creating a dedicated resource for mobilising resources, recognising that this might be achieved at no net cost although

experience from other bodies who have created this resource have taken two to three years to see the benefits. There are a number of options how to create this resource. Resource mobilisation will need to be managed more actively and the responsibility should not rest solely with the specialist in resource management, who will also coordinate efforts, but should be shared between senior staff. A full scanning of the funding environment is needed, together with prioritisation of the potential sources. However, TDR should not pursue funding just because it is available: it will be essential to identify those sources which support the organisation's agreed strategy and build on its strengths. This will therefore probably discount funding associated with product development or direct management involvement in disease outbreaks, assuming that these are not identified as strategic priorities.

Whilst work has been undertaken to develop output and outcome metrics, there is a need to move toward measuring longer term impact. Although TDR has an officer responsible for the monitoring and evaluation of individual projects, the organisation has, like others, had difficulty demonstrating attributable benefits. Achieving impact is recognised to be a long-term aim but funders require credible indicators over and above achievement of planned activities and publications in order to advocate to their organisations for funding. Additional input to more strategic monitoring and evaluation has the potential to support additional resource mobilisation. This function needs to work with the Scientific Working Groups (SWGs) and team leaders to identify a more comprehensive monitoring and evaluation framework and particularly optimise the potential benefits in TDR Global in respect of measuring impact and capturing the benefits of overcoming barriers of transitioning new initiatives into implementation.

Succession planning

The recovery of TDR has been heavily dependent on the work of the new director. He has been supported in this by a strengthened programme management unit whose management capabilities are recognised within WHO as a whole. It has been important that stakeholders have confidence in the leadership and believe that there is a strong team to deliver a clearly articulated set of strategic objectives. Whilst having credibility as a researcher, it has been essential for the director not to demonstrate any bias or personal interest in the programme of activities pursued. This strategy has been very successful indeed.

It is important that TDR has continuing strong leadership and that communication initiatives show that this comes from the senior team as a whole, not only from one person. It is foreseeable that personnel changes may take place within the next strategic period and therefore some thought needs to be given to succession planning and the competences that the whole organisation will need to encompass to deliver the agreed strategy. As vacancies arise, there should be an explicit plan to fill any gaps or to strengthen functions that have increasing relevance/ importance, such as resource mobilisation, monitoring and evaluation, and education.

A major strategic challenge for the organisation is ensuring that TDR benefits from credible and visible leadership both technically and managerially even if, inevitably, there are senior staff changes. This may require a transition to highlighting the achievements of the team as a whole in future communication initiatives and proactive succession planning.

Funding TDR

TDR relies on a relatively narrow funding base which it has not been able to diversify since 2014-15, despite this being an objective. There is a general recognition that designated funding (tied to specific activities for a fixed period) may be easier to raise going forward, though to date most funding has been undesignated. Under TDR's current structure, a number of staff provide support to projects but it has proven difficult to anticipate their inputs in advance, meaning that their costs are not always accurately apportioned to these projects. This obscures projects' cost-effectiveness and creates a risk should core funding be reduced. Some work (such as capacity building) is almost completely funded from undesignated funding.

TDR's costing and budgeting model carries higher risk than that of many other organisations in regard to the potential for declines in undesignated funding, as does its employment practices (which are governed by WHO). This was recognised by TDR's Joint Coordinating Board in 2012 and the percentage overhead on work with designated funds was increased. However, this is based on a standard percentage and so is not always accurate.

In order to mitigate risk and to increase flexibility, it would seem prudent to move progressively towards a situation where all designated funded pieces of work bear a more individually assessed cost as it is recognised that some grants inherently involve greater support costs.

The proposed HPRDF offers both significant risk and potential benefit to TDR's access to long-term funding, making arrangements around it particularly sensitive.

Accessing technical expertise

TDR has set up three Scientific Working Groups to provide in-depth technical advice. Whilst these have provided some valuable support, there is a feeling that their contribution is not optimised. It may be appropriate for a review to be carried out by the Scientific and Technical Advisory Committee (STAC).

Summary of major recommendations

1. TDR should continue its focus on implementation research and should confirm its current direction of travel in withdrawing from supporting product research and development through its own funds.

2. TDR should seek to clarify precisely what it means by IIR, focusing on what TDR will and will not do under this heading.

3. If TDR does take on the management of the HPRDF, the risks of doing this need to be clearly identified and mitigated.

4. In its next Strategic Plan, TDR should clearly outline its approaches to partnerships, ensuring that costs of inputs, including opportunity costs, into such partnerships are covered and expectations clarified.

5. While TDR should continue to support capacity building initiatives, it should explore the possibility of conducting such work in collaboration with other organisations, e.g. HRP and AHPSR.

6. Consideration should be given to the further development of the TDR Global database to support a community of individuals who have an interest and expertise in implementation research.

7. TDR's structure should be appropriate for its strategic focus. There may be a need for greater senior management capacity over two or more technical workstreams and greater capacity for monitoring and evaluation, resource mobilisation and research uptake across TDR.

8. In general, TDR benefits from being a programme with several UN agencies as co-sponsors. This situation should be maintained. This may involve explaining more clearly how TDR's work is relevant to the co-sponsors and identifying ways in which mutual benefit can be leveraged.

9. The director has contributed hugely to restoring TDR's credibility. There is now a need to ensure management capacity is extended into technical areas, and succession planning is actively managed.

10. Where donors provide designated funding, it is important that TDR only engages with agreements that it can effectively handle administratively and for which all costs are covered by that funding.

11. TDR urgently needs to improve its project management systems, which may involve entering into intensive negotiation with WHO.

12. Consideration should be given to reviewing the working of the SWGs to optimise their contribution.

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List of abbreviations

ADG	Assistant Director General (WHO)
AFRO	World Health Organization Regional Office for Africa
AHPSR	Alliance for Health Policy and Systems Research
AIDS	Acquired Immunodeficiency Syndrome
ANDI	African Network for Drugs and Diagnostics Innovation
CDF	Career Development Fellowship
DAC	Development Assistance Committee (DAC)
DEC	Disease endemic country
DFID	UK Department for International Development
DND*i*	Drugs for Neglected Diseases *initiative*
EDCTP	European and Developing Countries Clinical Trials Partnership
EPPE	Effective Project Planning and Evaluation
ERC	WHO Ethics Review Committee
ERP	Enterprise resource planning
ESSENCE	Enhancing Support for Strengthening the Effectiveness of National Capacity Efforts
EU	European Union
EVIPnet	Evidence-Informed Policy Network
GCLP	Good Clinical Laboratory Practice
GCP	Good Clinical Practice
GHRP	Good Health Research Practice
GIZ	Deutsche Gessellschaft für Internationale Zusammenarbeit
GLP	Good Laboratory Practice
GLRP	Good Laboratory Research Practice
GMP	Global Malaria Programme
GRP	Good Research Practice
GSM	Global Management System (WHO finance system)
HIV	Human Immunodeficiency Virus
HQ	Headquarters
HPRDF	Health Product Research and Development Fund
HRP	Special Programme of Research, Development and Research Training in Human Reproduction
HSG	Health Systems Global
HTM	HIV/AIDS, Tuberculosis, Malaria and Neglected Tropical Diseases
iCCM	Integrated Community Case Management
IMPACT	Interventions, Methods, Policies, Actions, Campaigns or Tools for Improved Health
IDRC	International Development Research Centre
IIR	Intervention and implementation research
IT	Information technology
JCB	Joint Co-ordinating Board
KPI	Key performance indicator

LEC	Local Ethics Committee
LMICs	Low and middle-income countries
M&E	Monitoring and evaluation
MMV	Medicines for Malaria Venture
MOOC	Massive open online course
MOU	Memorandum of understanding
NASA	National Aeronautics and Space Administration
NGO	Non-governmental organisation
NTD	Neglected tropical diseases
OECD	Organisation for Economic Co-operation and Development
PAF	Performance assessment framework
PAHO	Pan-American Health Organization
PATH	formerly Program for Appropriate Technology in Health
PEPFAR	President's Emergency Plan for AIDS Relief
PhD	Doctor of philosophy
PHE	Public Health and Environment
PPM	Portfolio and Programme Management
R&D	Research and development
RCS	Research Capacity Strengthening
RCS-KM	Research Capacity Strengthening and Knowledge Management
RCT	Randomised control trial
RTC	Regional training centre
SC	Standing Committee
SDF	Strategic Development Fund
SDG	Sustainable Development Goal
SORT-IT	Structured Operational Research and Training Initiative
STAC	Scientific and Technical Advisory Committee
SWG	Scientific Working Group
TB	Tuberculosis
TDR	Special Programme for Research and Training in Tropical Diseases
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
US	United States
USAID	United States Agency for International Development
VES	Vectors, environment and society
WARN-TB	West African Regional Network for TB control
WHA	World Health Assembly
WHO	World Health Organization
WPRO	World Health Organization Regional Office for the Western Pacific

Introduction

Purpose of the review

The Joint Coordinating Board (JCB) periodically commissions external reviews of TDR. The purpose of such reviews is to obtain an independent assessment of the performance of the programme, to identify lessons learnt and to contribute to the strategic direction for the coming period.

Scope and focus

As requested in the Terms of Reference for this review (Annex A), the review focused on the five Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) evaluation criteria (relevance, effectiveness, efficiency, impact and sustainability) and on the quality of the science supported by TDR.

The scope of the review covered the three workstreams as outlined in TDR's 2012–2017 Strategic Plan, together with the governance of the programme, including the performance of the Secretariat.

Review methodology

The review was carried out by a team of four. The team leader, Liz Ollier, also led the external review undertaken in 2011 and was therefore in a position to assess changes and improvements implemented arising from that review. She has undertaken a number of evaluations and reviews in WHO and therefore was well aware of the context for the programme as a special programme, hosted by WHO. In addition, she took part in a predecessor external evaluation relating to capacity building commissioned by the Secretariat and has been able to draw on the findings of this for the external review.

The team included experienced consultants with knowledge of infectious diseases of poverty, research processes, capacity building, knowledge management, organisational systems, governance and the overall environment in which TDR operates. Topics were divided between the team based on their knowledge and experience, and individual team members undertook relevant interviews.

The review methodology was included in the proposal documents submitted by the consultants. The design of the review, together with a list of proposed interviewees, was refined following the awarding of the contract and a preliminary scanning of documentation. The final design document provided:

- an outline of the proposed final report;

- a list of intended informants, including staff in the secretariat, members of the Standing Committee (SC), JCB, STAC and SWGs, and key informants in WHO, partner programmes and funding agencies; and

- a number of semi-structured topic guides to be used with different groups of stakeholders.

As a result of comments received from the SC a number of additional report headings and additional informants were added. However, despite numerous attempts, it was not possible to interview all identified informants, due to their lack of availability.

The review was iterative and, based on information obtained, additional topics were covered and additional informants interviewed (a list of informants is provided in Annex B). At all stages, notes of interviews were kept and shared amongst the team, and informants were aware of this. Every attempt has been made in this report to respect informant confidentiality, and therefore views and opinions are not attributed to particular respondents.

The majority of TDR staff and Geneva-based informants were interviewed in Geneva during a four-day visit in early March 2016. Other interviews were carried out by phone and Skype, mainly by a single interviewer.

A list of relevant documentation was received from the Secretariat and this was extended during the review (for the report's bibliography see Annex F).

The review was limited, in regard to the number of interviews undertaken, by time and resources but every effort was made to ensure that interviews were representative, including geographically and by gender, and to triangulate the information received. The team does not believe that the limitations affect the rigour of the review but are aware that a number of developments taking place during the period of the review, not all of which could be reflected in the final product (e.g. finalising information in respect of performance in 2015, issues relating to the proposed HPRDF and ongoing discussions concerning Zika virus).

The review team were independent and had free access to information, were not restricted in their lines of enquiry and were able to report openly and candidly.

Background to the 2016 review

TDR was established in 1974 as a new body which would be a global UN-sponsored entity to address diseases that were felt to be neglected, through research and training, particularly in disease endemic countries (DECs). TDR was launched in November 1974. The cooperating partners (at that time WHO, UNDP and the World Bank) endorsed an MOU in 1978 which established the governance structure of the SC, JCB and STAC (in 1979). From the beginning, there was a strong emphasis on the involvement of disease endemic countries and participation by both funders and recipients.

TDR had two related objectives: to build research capacity in the countries where these diseases were endemic and to help prioritise and fund the research needed. TDR supported a huge number of researchers who have since become the leaders in their field.

> '*In every country, in every academic institution, in every ministry of health I meet people who tell me how their careers were supported by TDR.*'
> TDR partner

Following financial difficulties in 2010/11, TDR relocated, restructured and refocused its programme of work. A Strategic Plan for the period 2012–17 was developed and the programme focused on its revised vision:

'The power of research and innovation will improve the health and well-being of those burdened by infectious diseases of poverty.'

In line with its new mission to 'foster an effective global research effort on infectious diseases of poverty and promote the translation of innovation to health impact in disease endemic countries', the programme's new strategy is focused on three key workstreams:

- Intervention and Implementation Research (IIR);
- research on Vectors, Environment and Society (VES); and
- Research Capacity Strengthening and Knowledge Management (RCS-KM).

The secretariat was reduced in size and restructured in line with the new objectives and the programme relocated to the WHO site. The governance structure was changed, with increased representation of funders and DECs on the SC. The STAC has been progressively changed to reflect the strategic direction and three new SWGs were established in 2014.

Implementation of recommendations from the Fifth External Review 2011

The majority of recommendations from the previous review have been implemented and a summary is appended at Annex C.

Governance

The relationship with the executing agency (WHO)

On balance, most respondents, including Secretariat staff, felt that hosting by WHO remained the most appropriate option as the relationship brings a range of benefits, including location and links to disease control programmes. However, the operational processes were felt to be cumbersome and lacking in flexibility.

The MOU under which TDR operates establishes it as a special programme operating under WHO, as the Executing Agency. This means that staff in the Secretariat are employed on WHO terms and conditions and TDR systems are subordinated to WHO-wide systems, such as the WHO Global Management System (GSM). There have been a number of disadvantages relating to this adherence, including the failure to implement a fit for purpose unified project management system (see section on "Financial and project data systems", page 46). Currently, the new global mobility policy presents risks in relation to the specialised nature of the work undertaken by TDR (see section on human resources policy, page 39).

> *'Working with WHO sometimes feels like pushing an elephant upstairs.'*
> Staff member

TDR transferred to the HIV/AIDS, Tuberculosis, Malaria and Neglected Tropical Diseases (HTM) cluster of WHO in 2012, as recommended by the Fifth External Review, in recognition of the need for closer working relationships with disease control programmes. All informants agreed that this move had been appropriate and relations were much closer, with greater opportunities for collaboration.

Co-sponsors

TDR is a special programme sponsored by WHO, the World Bank, UNICEF and UNDP. Whilst sponsorship undoubtedly provides TDR with a profile and status, co-sponsors represent a declining source of funding.

Table 1:   Co-sponsor funding, in US$

	2014–15	2016–17
WHO	1,800,000	1,800,000
World Bank	2,500,000	0
UNDP	1,407,270	800,000
UNICEF	0	0

Source: TDR Resource Mobilisation

Despite recent work to identify areas where there would be mutual benefit, little has yet materialised. The Secretariat produced a paper of potential collaborations but the co-sponsors have been unable to identify timelines (requested at the 97th Standing Committee meeting in 2015).

The previous review in 2011 noted that consistency of attendance amongst co-sponsors was a problem. The WHO Assistant Director General HTM (ADG/HTM) acts as Special Programme Coordinator and has been consistently present at recent meetings, although the person holding this title has changed several times in the period since 2011, partially due to the change of cluster. The same has been true of UNICEF representation. On the other hand, there has been consistent attendance by the same person from UNDP for the last five meetings. The World Bank has not been able to achieve consistency of representation in the last five meetings and on one occasion was not able to be present.

The 2011 review also commented on the issue of the seniority of the representatives and their authority to commit their organisations. This appears to still give cause for concern.

The Standing Committee (SC)

The SC meets twice a year and this is usually in the United States. This is understood to be because this is where three of the four cosponsors are located and there is a wish to increase TDR's profile within the bodies. Its membership includes ADG/HTM, representatives of the other three co-sponsors, the chair and vice chair of the JCB, one representative each from the JCB DEC and resource contributor groups, and the chair of the STAC. On occasion the co-sponsors hold a pre-meeting but the purpose and outputs of this are not clear.

Since the last review, the role of the SC has been clarified and the membership expanded. There is evidence of greater oversight although changing attendance continues to be a problem.

Given the membership, it would seem more logical to consider reverting to alternating with meetings in Geneva given that seven out of the last eight meetings have been held in New York: Only three attendees out of twelve are based in the US and the actual costs and travelling time would suggest that a location in Europe would be more cost-effective as well as more environmentally friendly. Meetings in Geneva would also give the SC the opportunity to interact directly with technical staff whilst in WHO.

The SC generates a summary document during these meetings, entitled 'decisions and recommendations'. It is assumed that some of these recommendations are directed to the Secretariat but it is not clear which recommendations are to be presented to the JCB which is the formal, decision making body. A large number of items still appear to involve receiving information and presentations

The agenda does now have standing items for reviewing the implementation of decisions taken at the last meeting, reviewing performance and finance. This is a major improvement on the situation in 2011. It is still not clear from minutes how much challenge is provided by members or how detailed their scrutiny is. Some members of the SC report that they have no contact with the Secretariat between meetings although there seems evidence that there is significant email contact.

The SC receives significantly more plan, budget and progress information than they did before 2012 and it is well packaged in the form of a dashboard covering dual income scenarios and proposed projects. More detailed tabled data are presented to the WHO finance department separately.

Joint Coordinating Board (JCB)

The JCB is the senior decision-making body of TDR and revised terms of reference for JCB members were agreed in 2013. All new members are offered a half day's induction on these terms of reference before their first meeting, which is good practice.

Membership

The membership consists of:

- twelve members from the governments contributing to TDR resources (including constituencies)
- six government representatives selected by the WHO regional committees;
- six members designated by JCB from remaining cooperating partners; and
- the four co-sponsors.

Attendance at meetings is large. At the 38th meeting the following people attended:

- 39 JCB members;
- two technical presenters;
- seven WHO headquarters (HQ) staff;
- 32 TDR staff; and
- 16 observers.

This is not atypical and attendance in 2013 at the 38th meeting was similar. Such a large number of staff and observers is likely to constrain contribution. Whilst there is documentation suggesting that WHO regional offices were all once invited to JCBs, this has not occurred since 2012, when a new collaboration agreement was agreed. However the TDR website implies that they are all still members. A single representative now attends which is appropriate given there is also an annual meeting with focal points from the regional offices.

DEC involvement has increased although currently there are a number of countries represented that have low prevalence of infectious diseases of poverty whilst large countries that have significant prevalence are missing. Representation from Africa appears disproportionally small. There have been no additional NGO or private sector members selected beyond Drugs for Neglected Diseases *initiative* (DND*i*).

A significant number of the representatives do not have English or French as a first language. Whilst the agenda is produced in French, costs prevent simultaneous translation being provided in any language except French. This means that a number of delegates may face major barriers to comprehension and contribution.

Every effort should be made to keep attendance of observers and staff to the JCB as low as possible to encourage contribution from JCB members as more than one commented that they found such a large meeting challenging.
Whilst translation may not be affordable for the full JCB, an offer of translation should be made if members wish to contribute in their own language and can flag this in advance.

Role of the JCB

The JCB acts as a general forum in which to present the work of TDR, to gain ownership of stakeholders (particularly DECs) and to ratify the forward plan. The size of the annual meeting means that effective challenge is rare, although on occasions JCB members ask for additional scope or focus on proposed activities. There is no example of them rejecting a proposed activity or modifying it substantially.

The agenda and minutes of JCB meetings demonstrate adherence to the terms of reference but it is difficult to judge the extent to which the JCB is truly influential. In general, policies and plans are debated and agreed elsewhere and presented for ratification

It is clearly important that DECs feel they have ownership of the programme but the minutes suggest that representatives change very frequently. It is important that following attendance representatives disseminate information throughout their home organisation.

It was not possible to identify how representatives disseminate information gained from the JCB on their return home although the use of a 'take home' pack should facilitate this if used to brief colleagues on their return (briefing notes, summaries of achievements, slide packs)

Financial issues

The JCB used to act as a forum for accepting pledges of support but this has not occurred recently. The 2011 review commented on the contribution made by DECs that had benefitted from TDR support in the past yet that are not low-income countries. This situation continues, with only small contributions (under $70k p.a.) being received from Thailand, India, Malaysia and others.

The previous review also commented on the costs of the JCB. At that time it rotated between countries and on one occasion the cost to TDR had been $500,000. The expenditure has now been reduced to $70,000 but this does not take into account TDR staff time in preparation nor the cost to self-funding agencies.

The remit of the JCB seems better understood than in 2011. Whilst there does not seem to be a case for changing the roles, responsibilities or structure of the JCB, efforts need to be made to utilise the opportunity of so many stakeholders being present to the full, perhaps with breakout special interest presentations or some form of sharing exercise with countries reporting on TDR-supported activities.

The STAC

Background

TDR's STAC oversees its scientific activities. It meets annually, in March, and reports to the JCB. The STAC has three main functions, which are to:

- review, from a scientific and technical standpoint, the strategy, scope and content of TDR, including the diseases covered and approaches to be adopted;

- recommend priorities within TDR, including advising the Secretariat on the establishment of Scientific Working Groups (SWGs) to assist TDR in the management of specific projects/ activities; and
- independently evaluate the scientific and technical aspects of all TDR activities.

Terms of reference for the STAC specify its functions, responsibilities, composition, process for appointment, chair, rapporteur and operations. STAC consists of 15 experts with diverse technical experience. They are nominated by the TDR Secretariat and endorsed by the JCB. If there are more than four vacancies at one time, TDR may issue an open call for interest. Otherwise, suggestions for nominations are sought from STAC members and TDR staff.

As at January 2016, according to the TDR website, there were 14 members of STAC: eight women and six men. Of these, six were based in Europe (the Netherlands, Portugal, Sweden, Switzerland and the United Kingdom (UK) (two)), five in Africa (Botswana, Cameroon, Ghana (two) and South Africa), two in Latin America (Argentina and Brazil) and one in Asia (China).

Role in scientific decision-making

Most respondents consider that the STAC is playing a reasonable role in providing scientific and technical advice to TDR, particularly given that the committee only meets once a year. A few respondents expressed the view that the STAC did not have as much influence as it might have, that it required stronger leadership and that it was conservative in its recommendations. It was suggested that the STAC needed to undertake more critical analysis, in order to increase its credibility.

However, despite some reservations to the contrary, the STAC has clearly been able to exert its influence. Examples of its proposals include:

- TDR should take a lead in identifying innovative options for case identification in diseases targeted for elimination when case identification is no longer cost-effective;
- TDR should engage in identifying lessons learnt from the Ebola outbreak and facilitate the identification of research priorities, including research capacity strengthening and community engagement to address future outbreaks of Ebola and other emerging infectious diseases; and
- TDR should continue to promote its core values, such as gender equity, ethics and capacity strengthening, across all of its activities.

Direct consequences of STAC recommendations include:

- calls explicitly encouraging applications from women;
- encouraging discussion which utilises TDR's knowledge relevant to Zika virus.

However, some respondents expressed concern that there may also be issues that have already been decided by the time they are presented to the STAC, e.g. the WHO demonstration projects. It appears these were selected by WHO but TDR was later involved in providing a financial mechanism for these. This was communicated to the STAC but had already been decided upon.

Changes in the STAC over time

Respondents commented that the STAC has changed greatly over time (see, for example, Box 1). The number of STAC members has reduced from 20 to 15. The quality of meetings has improved. The STAC now covers areas such as implementation research and there is a better gender balance. The introduction of specific SWGs has meant that they can engage in more detailed work with the Secretariat. One member commented that, in the last year, the STAC had been able to concentrate more on scientific matters and less on strategic operations and problem solving. Nevertheless, one member still reported that meetings did not consider scientific matters in sufficient depth.

Box 1:   The STAC and TDR have both been transformed

One long-standing STAC member, who had been involved with TDR for almost 30 years, commented that: *'I have never seen TDR staff as happy as they are now. Within the STAC, I always feel our views are heard and responded to. It is fantastic to be involved in an organisation that is not broken.' The STAC is a great place to kick around ideas. Issues discussed have ranged from research capacity strengthening, climate change, emerging infectious diseases, urbanisation and neglected infectious diseases. I now come out of STAC meetings feeling enthused.'*

Interviewees remarked on the improvement in the information made available, the increase in open debate and the responsiveness to the STAC. When needed, the STAC can meet in closed session without TDR's director or the STAC can have private briefings with the director.

STAC processes

In general, if the STAC's main focus is on the overall strategic and scientific direction of TDR, then a once per year meeting is considered adequate. However, if the STAC is to have a more operational role, more frequent meetings might be needed. However, such activities should probably be conducted by the SWGs rather than by STAC itself.

The STAC has a process to avoid conflicts of interest, which involves members filling in forms to declare any interests. However, it is not clear to some interviewees how well this works because the issues are considered to be somewhat blurred. One respondent commented, however, that this had not really been a problem for the STAC.

Administrative support functions were felt to work well and to be responsive. One respondent commented in particular on the helpfulness of the chair.

Remaining challenges

A wide range of challenges were identified by respondents. However, it is important to appreciate that these do not represent a consensus but rather a diversity of opinion regarding what challenges exist. The challenges identified are as follows:

- the composition of the STAC, which does not fully reflect the current work of TDR (implementation research, climate change, social development, innovation) nor geographical equity (francophone countries, small island states);
- the lack of interaction between meetings and the wasted potential for support and advice;

- the costs (actual, personal and opportunity) of a short annual meeting involving lengthy travel;
- the lack of ability to respond quickly – although there was agreement that the STAC had acted quickly in respect of both Ebola and issues relating to genetically-modified vectors;
- the lack of involvement in agenda setting, with perhaps undue influence from TDR staff;
- difficulties in decision-making due to the lack of in-depth information. However, the Secretariat commented that this problem may be that STAC members do not read the information provided in advance and then expect details to be covered in presentations which is not possible;
- unequal contribution by members to discussion and the need to encourage the reticent;
- some lack of information on the follow-up to decisions, despite the Secretariat reporting on follow-up at every STAC meeting. This can lead to suspicions of lack of transparency or undue influence of TDR staff.

> *'I think I could have contributed more if asked. I felt sometimes I could not advise properly because I was lacking much information.'*
> STAC member

- When appointing new STAC members, it would be useful to seek to cover technical areas that are currently identified as gaps. The most pressing of these relates to implementation research. Basing selection on some form of skills and knowledge audit (comparing skills and knowledge available with those desired) would be ideal.
- Mechanisms for the STAC to provide rapid scientific advice need to be identified and documented. These may primarily be SWGs rather than the STAC itself. It would be good to base these mechanisms on what the STAC has done in the past to provide rapid advice, e.g. in relation to Ebola.
- The STAC needs a feedback loop on advice given.

The Scientific Working Groups (SWGs)

Background

SWGs can be established by the Secretariat, based on recommendations from the STAC, to provide support to specific portfolio workplans. Generic terms of reference for an SWG specify the function, composition, chair and operation of the SWG. These note that normally an SWG would have a membership of six to eight people, including the chairperson. The process for selection is not entirely clear but it appears to aim to achieve geographical spread and also some complementarity of knowledge and experiences. This is not consistently achieved, however, and the research capacity strengthening and knowledge management SWG has two members with very similar backgrounds.

Members of SWGs: help review and prioritise proposed activities; screen and select projects; recommend funding; make recommendations regarding the efficiency of an approach; follow up progress; and evaluate results.

Currently, there are three SWGs with members selected for their technical expertise not as representatives of specific institutions:

- the VES SWG, with eight members (four men and four women) from Argentina, China, Germany, Kenya (two), Mexico, South Africa and the UK;
- the IIR SWG, with five members (one man and four women) from Brazil, Canada, Peru, South Africa and the UK;
- the RCS-KM SWG, with seven members (five men and two women) from Cambodia, Canada, Ghana, Guinea Bissau, Lebanon, Timor Leste and the UK.

These SWGs are relatively new and have been operating for around 12 months. They aim to meet in person once per year. The interviews undertaken suggest that the SWGs are not yet fulfilling their potential and it is suggested that a review of operation to date may be appropriate.

Relationships to the STAC and the Secretariat

According to the terms of reference for SWGs, it is expected that the chairperson of each SWG will be a STAC member. However, the SWGs are expected to make recommendations to the Secretariat and these are reported by the Secretariat to the STAC, and by the chair of the STAC to the JCB. One JCB member questioned why they could not receive reports from the SWGs directly, expressing the fear that this meant they were '*not very visible*' to the JCB. On the contrary, the Secretariat reports that SWGs are very helpful as they are involved at all levels and have good scientific understanding.

Currently, there are no standard operating procedures as to how SWGs should operate. These are being developed and will need to cover a range of issues that are currently unclear, including who takes minutes at meetings and how conflicts of interest are handled. Some SWG members report receiving documents quite close to the date of the proposed meeting.

There appears to be some confusion regarding whether SWGs make decisions, e.g. over what projects to support, which to continue and which to interrupt, or whether the SWG supports the Secretariat in making such decisions. One member of an SWG expressed the concern that they were sometimes asked to evaluate projects but they were not given enough information to do so. Also, the evaluation process is not fully transparent as those participating in the review did not always understand who was subsequently awarded a project and why. In the absence of a clear and transparent system, people are likely to speculate as to the decisions made and the reasons for them.

On other occasions, Secretariat staff led STAC and JCB members to believe that the SWGs are able to give detailed technical input and advice, whereas in practice this is probably unrealistic and SWG members report that time constraints and the meeting format constrain their input.

Some commonly expressed concerns relate to the lack of a feedback loop on advice given, with the following questions often arising:

- whether advice was actioned;
- if not, why not? and
- if it was actioned, what the consequences were.

Providing this information would provide SWG members with reassurance that their inputs were used and would also contribute to institutional learning. The VES workstream has recently addressed this to some extent in the 2015 Annual Report, by summarising minutes with mark-ups on where action was taken, but further detail and systematic attention may be required across all SWGs.

Progress with individual SWGs

Since its inception, the VES SWG has had one meeting in 2014, two meetings in 2015 (February and October) and one is planned for 2016. All respondents thought that the VES SWG was relatively immature but that it was becoming increasingly better organised and effective and that the more detailed work stream focus was valuable. The meetings were considered to be well chaired and efficient, with ample opportunity to contribute and offer constructive criticism.

However, some SWG respondents expressed a desire to be more technically involved with projects and felt that they currently received too few details to be able to contribute meaningfully to VES work areas. While annual meetings were generally considered to be sufficient, some members felt the time available was too short and they would appreciate being able to contribute on a more ongoing basis.

A lack of attention to following up on recommendations and providing justifications for decisions was also reported, and there were some concerns that VES staff were sometimes unreceptive or reluctant to accept SWG advice or offers of support. This was considered to be largely due to time constraints on the part of the VES staff but these issues nonetheless bring into question the extent to which the SWG's advice is being used effectively. These issues have recently been addressed to some extent in the 2015 Annual Report, by summarising minutes with mark-ups on where action was taken, but further detail and systematic attention may be required

The RCS-KM SWG had one *ad hoc* meeting in 2014, where the prime activity was assessing proposals for Interventions, Methods, Policies, Actions, Campaigns or Tools for Improved Health (IMPACT) grants. This meeting was felt to be less than successful due to a lack of preparation on the part of some members. A further meeting was held in November 2015. This meeting had a much wider agenda but it was reported that this gave less time for debate and much time was spent receiving presentations rather than providing advice on specific issues.

> *'It is not always clear what we are just being told about and when our advice is actually being asked for.'*
> SWG member

Respondents expressed the view that the IIR SWG was operating effectively. In the initial meeting there was a perception that the group had got too bogged down in details but, in more recent meetings, the group had managed to take a higher level, strategic view. The group would probably benefit from a small number of additional members as it is currently smaller than the minimum number advised. A key achievement of the IIR SWG was considered to have been identifying four thematic areas on which TDR's IIR workstream might focus in the next strategic period: preparedness for outbreak responses; preventing

and containing antimicrobial resistance; elimination of diseases; and reducing inequity and improving access to health.

It may be timely for the STAC to undertake a review of SWGs to optimise their contribution.

The criteria for selecting members might be reviewed to make criteria transparent and to ensure the widest spread of complementary competences and experience.

A number of processes need to be agreed and standardised across the three SWGs (responsibility for minutes, processes for conflict of interests, etc.)

SWGs need a feedback loop in relation to advice given.

Consideration might be given to engaging members in a smaller agenda where there would be time to explore issues in-depth. Rather than presenting papers, it might be worth considering posing questions within a contextual framework.

Where the SWG is involved with prioritisation it might be valuable to introduce a scoring system against agreed criteria in the prioritisation guidelines.

SWGs may not currently be being used to their optimum potential. Although not all members may have time to provide additional input, mechanisms should be put in place to allow for this where it is offered. This could include additional virtual meetings or involving interested SWG members in specific project support. VES SWG members have recently been associated with particular projects for the purpose of providing more detailed technical advice. If this practice is useful, it could be extended to other SWGs.

Assessment of TDR's governance against OECD/ DAC criteria

Relevance

The governance structure reflects the establishing MOU and provides appropriate mechanisms for oversight and development of strategy. The introduction of the SWGs provides an additional function in that they can provide more detailed technical input as requested.

Effectiveness

Considerable efforts have been made to document governance structures, roles and responsibilities. This does not necessarily result in greater effectiveness but it enhances understanding of accountability and process.

The revised SC structure provides greater oversight. It is evident that SC members, particularly those from the STAC and JCB, are much better informed about both performance and the strengths/ weaknesses of the organisation than was the case in 2011. There is significantly greater transparency and information is presented in a more understandable way. The JCB and SC do not drive the agenda of TDR, however, and it is still felt by some informants that activities are largely influenced by members of the Secretariat.

There has been recent debate about the roles and responsibilities of co-sponsors but, despite this, the potential synergies that have been identified do not seem to be well leveraged.

The JCB has the ostensible function of demonstrating TDR's performance and adherence to its agreed mission, and of ratifying both strategic and operational decisions. It provides a convening function and a forum for accepting pledges of funding. However, its role is largely 'ceremonial' and, in practice, it is not a forum for either debate or challenge. It is the senior decision-making body in name, but in practice it is a ratifying body and a forum for networking and establishing linkages. This networking role should not be underestimated, however. Consideration could be given to making the JCB meetings more participative and to providing attendees with information to disseminate on their return home.

The SWGs are in an early stage of development. They have significant technical expertise and could be used to greater effect between meetings, using videoconferencing, etc.

Efficiency

The governance arrangements appear to be supported efficiently, with most respondents feeling that agendas, supporting papers and minutes were produced in a timely fashion. There had been problems with the STAC, with technical papers sometimes being delayed, but this has been resolved.

The location of SC meetings is not efficient given that 75% of members have to travel to the US for most meetings. Meetings should only be held away from HQ when there are demonstrable benefits or economies in so doing.

The JCB is a large forum and it has a significant agenda to cover at its annual meeting. A significant proportion of time is inevitably given to reports and updates. Efficiency might be increased if a higher proportion of reports and presentations were produced in advance (perhaps using innovative media including podcasts) so that the meeting could focus on debate rather than receiving information. However, it is recognised that the size of the forum does not encourage this.

Whilst efforts have been made to increase 'clumping' of meetings to reduce time and travel costs this has been difficult to achieve. TDR makes very little use of remote communication and this has significant potential to reduce cost, increase contribution and strengthen oversight.

Sustainability

The current constitution involving co-sponsors is only sustainable as long as co-sponsors see benefits from being involved. Inevitably, those benefits will vary over time, depending on individual priorities. Every effort should continue to be made to optimise the mutual benefits arising from the arrangement.

Meetings supporting the current governance system remain high in transaction and monetary costs. This is only sustainable as long as self-funding representatives feel it is worth contributing. Given the financial pressures that exist globally, efforts should continue to be made to reduce costs and to undertake functions in more streamlined ways, using virtual meetings wherever possible.

Equity

The revised governance arrangements provide better geographical equity of representation on all committees. There is greater involvement of DECs in the JCB and the SWGs are moving towards drawing on expertise from all regions. There has also been increasing gender parity in TDR committees, with the STAC and SWGs now having 15 women and 17 men. The lack of translation at JCB meetings into languages other than French may prevent representatives from contributing.

Development of strategic direction

2012–2017

TDR undertook a very extensive consultation process before producing its Strategic Plan 2012–17 and it is evident from interviews with stakeholders that the vision and strategic objectives won significant support and ownership. This document is relatively brief (12 pages) and outlines TDR's: vision and mission (p.2); history and achievements (p.3); impact goals (p.4); guiding principles (p.7); priorities and general/specific criteria (p.8); approach to implementing the vision (p.9); and management for success (pp.10–11).

The format of the plan is clear and subsequent activities have been driven by the guiding principles and the activities outlined. The results chain has been felt to be particularly helpful.

In particular, the section on implementing the vision (p.9) outlines how TDR's main scientific/research programme will be structured into two main programmes of activity: one focused on IIR and the other focused on RCS-KM. In this description, research work on VES is presented as part of the IIR programme. However, TDR's organisational structure shows three main streams of work: RCS-KM; IIR; and VES.

The six elements of managing for success (pp.10–11) are: ensuring effective governance; mobilising resources; maximising TDR's impact; anticipating risks and reducing uncertainties; assessing results; and making a difference through effective communication and advocacy.

Broadly, this relatively simple strategy outlined the elements on which TDR would focus following the previous period of restructuring and downsizing. This brought a degree of clarity and focus to a situation that had been less than clear. However, the Strategic Plan provides little, if any, detail as to how particular workstreams will operate within TDR.

Although the Strategic Plan does not say explicitly that TDR will no longer be involved in product development, a number of stakeholders commented that it was clearly and explicitly understood that TDR would no longer be involved in this field.

TDR's performance against its Strategic Plan

There was a satisfactory financial performance against its Strategic Plan in the 2014–15 biennium. The out-turn budget was very close to the optimistic of the two budget scenarios ($56 million compared to $55 million). Implementation was increased from around 35% at the start of the biennium to around 90% by its close. Meeting these objectives generates a stable operational environment within TDR and strengthens the organisation's reputation externally, leading to likely benefits in funding and partnerships.

There is little in TDR's 2012–17 Strategic Plan that is specific enough to allow measurement of financial performance against the plan. However, the document does state 'further broadening our support base' as an objective. In 2014–15 four donors accounted for just over 50% of TDR's funding. With two of these significantly cutting back funding in 2016–17, the dangers of over-dependence were underlined. However, despite this

reduction dependence was if anything greater, with the top four donors accounting for almost 53% of the total.

Non-financial performance indicators have become increasingly better defined, with a standard reporting format being largely consistently adopted by the 2014–2015 biennium. This review finds that there has been substantial progress in almost all areas, although there is still a significant use of process indicators.

While there has been considerable adaptation or occasional termination of projects this has mostly been undertaken with appropriate due diligence and in response to ratified strategic and operational decisions. There have been several project-specific delays, but these are largely considered understandable given the rapid portfolio roll-out and the bureaucratic and ethical complexity of the large multi-site studies. In most circumstances, timelines and targets were revised appropriately and projects were concluded according to the modified plan. However, this was not always the case so greater attention should be paid to more carefully defining and updating targets, timelines, and outcomes. This is particularly true for the RCS-KM workstream.

The division of work into three workstreams has worked reasonably well, although the pressure of delivery and the considerable absences due to travel has meant that there is perhaps not as much collaboration, cooperation and communication across the streams as there could be. Financial and project management is improving, though this improvement has been hampered by WHO's refusal to permit the development of CONNECT, an IT project management system designed by TDR and HRP to link projects across biennia and allow consolidated monitoring and reporting.

The one management area where progress has been less than anticipated is in assessing results. Whilst there appears to be a culture of reflective practice to learn from the past (with good examples from the Annual Retreat) there remain issues with individual workstreams' systemic demonstration of key results indicators, such as publications and translation of findings into policy and practice. There is also an absence of a standard evaluation framework for many capacity building activities, both for the RCS workstream and the capacity building undertaken by VES and IIR. Whilst it takes many years to assess impact, it should be possible to develop quantitative and qualitative indicators to measure outcomes in addition to outputs (number of courses run, people attending), which is currently the major metric. For example, a useful intermediate measure for impact could include the number of TDR grantees using their skills in home country institutions, the proportion demonstrating career progression/ scientific productivity, the self- and peer-reported perceived and projected impact of TDR-funded activities, and qualitative case studies describing impact or its future potential. However, the lack of a dedicated M&E function impedes this objective.

Annex D summarises progress against the TDR results frameworks.

2018–2023

TDR is about to embark on the process of a consultation for the plan for the next strategic period. The overwhelming view of the stakeholders interviewed is that this should not involve major changes or revised priorities. Whilst some refinement is needed and there are undoubtedly some challenges which need addressing, the focus on implementation

research and capacity building is felt to remain relevant and appropriate for the organisation. The work under the VES workstream is also felt to be timely and valuable.

There are still some stakeholders who lack the conviction that TDR has made a permanent commitment to implementation research and has rejected any further involvement in product development. Assuming that this remains a commitment (and the review finds this has almost universal support) then this needs clear articulation. The role of hosting the HPRDF has the potential to obfuscate this message.

> *'Implementation research is the right way to go…but TDR must make it absolutely clear that product development and clinical trials are off the agenda.'*
> Partner

With pressure on funding it will be of the utmost importance to demonstrate that TDR has undertaken a comprehensive scanning exercise to identify both potential overlaps and also gaps and ways in which its work can be complementary. This may include a specific exercise to identify if there are resources which could be shared with other special programmes and partnerships.

TDR has good relationships with research bodies globally and has made efforts to engage WHO regional offices. It currently appears to face challenges in developing ongoing relationships at country level. Whilst the JCB has representatives from DECs, these are probably not adequate to identify gaps. The exercises undertaken by the WHO regional office focal points to identify priorities for small grants should be distinguished from dialogue on major country priorities

The review has identified a small number of issues with strategic implications which should contribute to the next Strategic Plan. These have been highlighted in the Executive Summary.

Review of the Secretariat

The TDR Secretariat is responsible for the operational running of the programme. It currently has 30 FTE staff, based in Geneva, plus 3 FTE staff with short-term contracts at the time of the review. An organogram of the Secretariat is shown in Annex E.

Human resource issues

Structure

The Secretariat is led by a director who has both technical and managerial expertise. His contribution to the organisation in the last four years is widely recognised as having been transformational.

> *'The director is absolutely fantastic. He has technical credibility and he knows how to manage. The two don't always go together.'*
> WHO support department

The organisational structure of the Secretariat was revised in 2011/12 and a substantial reduction in overall establishment was made. The current structure has three workstreams, each with a team leader and technical staff who manage projects. There are a number of functions in the Director's Office as well as in the Portfolio and Programme Management unit, which provides supportive services. There seems to be a recognition that working relationships are probably more important than structure but if there is to be further accountability for delivery it may be worth reviewing whether the current structure is optimal, although a full-scale restructuring is not recommended. It remains important that form follows function and that the structure should reflect the key workstreams

The three team leaders are primarily from technical and academic backgrounds and it is difficult for them to maintain a focus on the technical areas and to ensure effective and efficient management of each workstream. There is an argument for creating a managerial position overarching either two or all three workstreams. This would be similar to a chief operating officer role. Alternatively, it would be possible to have dedicated financial managers in each of the three teams, with dual accountability to the team leader and Portfolio and Programme Management (PPM) unit. In general, dual accountability does not work well and posts consequently suffer from greater attrition in such scenarios. This option is therefore not recommended.

Two important functions do not have dedicated resources. Both have the potential to be achieved at zero net cost given that they would contribute significantly to resource mobilisation. The first of these is a dedicated M&E resource to coordinate the identification of indicators and the gathering of evidence of benefits – something identified by donors as of increasing importance. Whilst M&E is currently undertaken in the PPM function, there is an argument for more technical input. This function is of key importance and needs to work in close collaboration with both communications and resource mobilisation, as well as feeding back internally to project design.

The second function is currently part of the duties of the governance and partnership lead. This position has expanded over time and the individual holding this position now has an extensive range of responsibilities, including:

- supporting the SC, JCB and STAC (in regard to setting the agenda, recording minutes, coordinating papers, and logistics);
- providing the contact point for the regions (chairing the annual meeting of focal persons, undertaking scheduled individual teleconferences, providing communication on planned regional activities);
- providing the secretariat for ESSENCE; and
- liaising with funders and potential funders to advocate for support.

This workload seems to be extremely heavy and there is a risk that important but unscheduled activities are given less emphasis. The recent review of ESSENCE (Donoghue 2015) has recommended additional support for the ESSENCE function, which supports this view.

There would seem to be a good argument for separating the resource mobilisation responsibilities from the 'board secretary' duties in this position and either creating a dedicated post for this function or providing support through other means. . If successful, this is likely to be self-funding in net terms.

A significant anomaly is the position of knowledge management as part of capacity building. This does not seem entirely logical although it seems to be a successor from the former Empowerment structure. Working relationships seem closest with the communication function and these could be further strengthened by focusing more on research uptake in the next strategic period.

There is a major risk that the three workstreams operate in silos, without complementarity. All three are involved in capacity building and all three are supporting implementation research but this does not seem to have achieved coherence. Structural change is unlikely to achieve this but regular joint working on cross-cutting issues and opportunities for complementarity seem essential.

Structure must follow function and consideration should be given to the options outlined for strengthening management within the workstreams.

Consideration should be given to strengthening both resource mobilisation and M&E by providing more specialist support

On balance, it seems appropriate to place knowledge management in the Director's department, with a specific remit to work across all three workstreams and a more explicit focus on promoting research uptake.

Workload

The changing emphasis of the programme inevitably impacts on both workload and the competencies needed to deliver successfully. Workloads in the Secretariat seem to vary considerably and some of this variation appears to result from staff having been carried forward from the previous structure without a clear role being identified. This has also resulted in mismatches between post-holders' competences, experience and interest and the posts they currently hold.

In the capacity building team, for example, the transition to funding institutions rather than offering grants to individuals is resulting in a reduced workload in this function. This provides a further opportunity to review responsibilities.

There needs to be recognition of the workload anomalies and positive action to address them. Neither over-commitment nor under-commitment is good for individuals and for the organisation

Staff travel

Whilst this should not be a major factor for a review, travel is resulting in significant costs, both actual and opportunity. The proportion of the budget that is spent on travel for activities which could be done using teleconferencing etc. is significant. Travel does not seem to be driven by assessed need but by individuals' preferred ways of working: some staff travel extensively, some much less. The Administrative Handbook provides information on the processes for travel but does not support decision-making on whether travel is necessary or not.

The travel policy needs to be reviewed and clear criteria established, taking into account direct cost, opportunity costs from being away from the office and environmental impact. This also applies to activities which form part of the workstreams (e.g. selection of applicants for courses under the revised arrangements for postgraduate education)

Personal development

Whilst staff have regular personal reviews there does not seem to be a system for identifying personal development needs. That is not to say that training does not happen but it appears to be opportunistic, relating to availability rather than planned and based on need.

TDR has a staff development budget of $80k for 2016–17. TDR has set up a fund for staff development which enables individual staff members to apply for grants up to $7,000 for a formal course of study which will progress their career. This seems to be good practice in demonstrating the value the organisation places on individuals from all disciplines and has clearly contributed to improved morale. It has the potential to help staff develop into their next post when it is evident that their current job will change significantly in the foreseeable future.

However, the way this fund is being used currently seems to be linked more to skill and knowledge enhancement based on interest rather than targeted investment to address the need for development to better perform in current or foreseeable future roles. The introduction of personal development plans linked to annual reviews should facilitate investment in personal development, which has demonstrable value for money.

There has been recognition of the need for personal development and team building and an experienced consultant has been appointed to work with the senior team in this regard. Support will include a 360 degree exercise together with further diagnostics on personal management style. Coaching will be offered as a follow up. This seems an appropriate response to address some internal tensions and management development needs which are apparent.

Although systems have been developed for planning and budgeting, it is evident that there are significant needs for both skill training and, probably more importantly, changes in attitudes and behaviours. Senior and middle managers in some technical workstreams do not seem to recognise their responsibilities for budgeting, scheduling expenditure and ensuring that work and financial plans are delivered as planned. There are also reported skill gaps in costing and the financial consequences of decisions are not fully assessed.

Consideration should be given to introducing a more formal system for identifying personal development needs, balancing the needs of the individual and the organisation.

Courses or workshops may only be able to partially change the current attitudes relating to financial management although some degree of supported 'learning through doing' with the support of an external financial coach is worth considering. It will be important, however, that this does not provide the potential for further abrogation of responsibility.

Human resources policy

As a special programme, TDR is hosted by WHO and the Secretariat has identified the potential risk to the organisation posed by the new WHO policy on mobility. This has also been recognised by the JCB and SC. Although this policy will only be operating on a voluntary basis for the first three years, there is a fear that it could have an impact on the ability of the organisation to build and retain a team of specialist staff with the requisite competences to deliver the strategic vision and workplans. The post of director is currently exempt from the policy, but this is not the case for other staff, although other initiatives which operate under an MOU have already received exceptions (Partnership for Newborn, Maternal and Child Health, UNITAID). The basis for seeking an exception to the mobility policy would appear to be based both on impact, but more importantly on the fact that the organisation is established by an MOU involving the four co-sponsors. The director is actively pursuing this.

Whilst the WHO mobility policy is undoubtedly a threat, it is not clear whether TDR can ultimately influence the outcome. Nevertheless, the potential impact needs to be made absolutely clear.

Operational systems and processes

Administrative Handbook

TDR is to be congratulated on the production of the Administrative Handbook, which was completed in 2013. This covers a wide range of policies and procedures in considerable depth. It has considerable value particularly as part of induction and for temporary staff. The major challenges of any document of this kind are updating them (it is important that responsibility for this is designated) and encouraging their use. In general, this sort of document is better held electronically than in hard copy.

Consideration might be given to sharing the Administrative Handbook with other programmes, given its value.

Performance management system

There is reported to be an active personal performance management scheme and meetings are held to review progress against objectives (see also the section on personal development, page 38).

Systems ensuring the quality of TDR-commissioned/funded work

The 2011 review recognised that TDR has a long history of producing excellent quality research but also recognised that some problems in this area had been identified.

According to TDR's Strategic Plan, ensuring quality is one of the organisation's guiding principles. Elements of quality identified there include maintaining excellence in training and research outputs; promoting standards of good practice and ethical conduct in research; efficiently and transparently managing resources, to ensure health returns for investment in research; and acting with respect and open communication in all endeavours.

TDR has tried to introduce indicators to monitor the quality of its work. However, these have either not been reported against or they provide limited information in terms of indicating whether or not TDR is achieving quality in the areas specified in the Strategic Plan. TDR's 2014 Annual Report takes a different approach, presenting a number of examples of '*high quality research that has led to improving health among the most vulnerable*'.

Respondents identified a number of steps and processes which TDR has in place to ensure the quality of the work that it commissions and funds. These are illustrated diagrammatically in Figure 1. Essentially, these are focused on four main steps:

- project selection – a key element in ensuring good quality work is selecting the projects, researchers and institutions with which TDR will work;
- project management – respondents had mixed opinions about the extent to which ensuring the quality of ongoing projects was the responsibility of the grantees and their institutions or of TDR overall. In some cases, TDR does report conducting in-depth monitoring visits;
- publication – respondents consider that publishing research findings in academic, peer-reviewed journals provides an element of external quality assurance. For more internal documents (such as tools, guidelines etc.) there is the expectation that these will go through an internal WHO quality assurance process; and
- use of research evidence – although a focus on academic quality might end once the research has been published in a high quality journal, TDR's focus on implementation/operational research means that quality needs to also be judged in terms of whether it influences policy or practice.

Figure 1:   Steps and processes to ensure the quality of TDR-commissioned/funded work
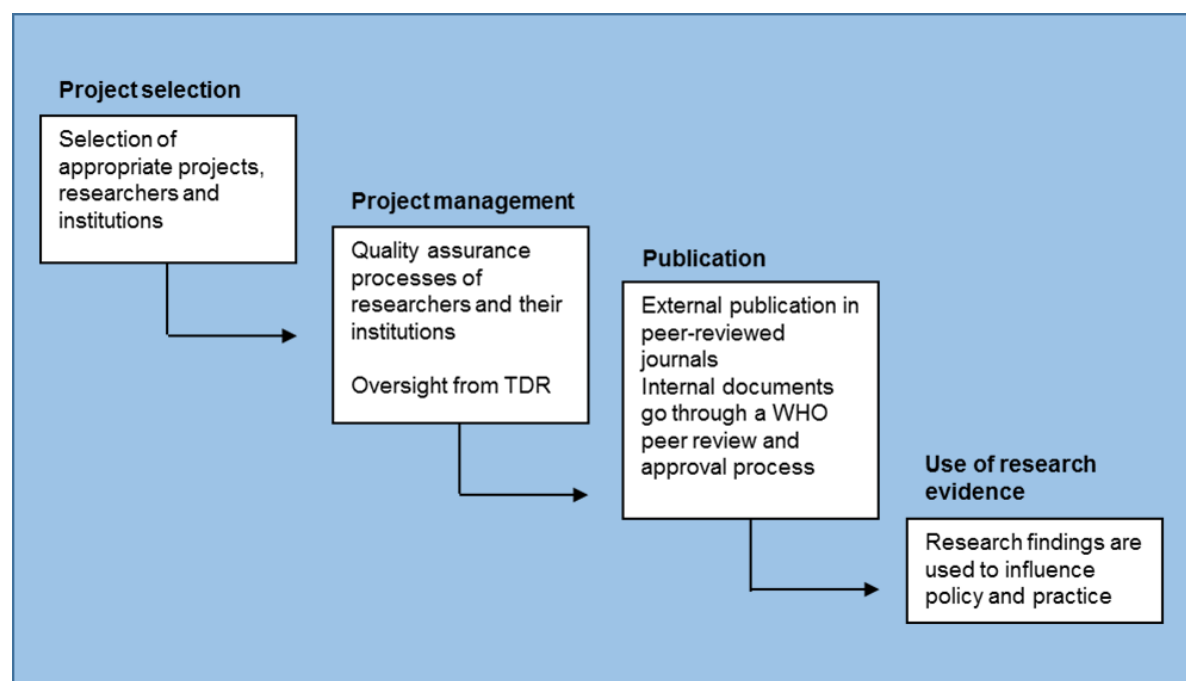
Across all of these steps, action may be needed to facilitate the delivery of high quality work, including providing capacity building support and addressing poor quality when it is identified.

- It is likely to be difficult if not impossible, to come up with simple indicators to measure the quality of TDR's commissioned/funded work. Where such indicators are included, e.g. in a performance assessment framework (PAF), they should be interpreted with caution.
- A better approach would be to have a clear, comprehensive and well-documented quality assurance system in place for TDR's work. Although many of these elements are in place, they are not currently documented as a comprehensive quality assurance system. It would be helpful if TDR could address this.
- Monitoring could then be focused on checking the extent to which elements of the system are operating appropriately. For example, this could involve external quality checking of some research applications or internal publications.
- It is important for TDR to be specific as to what it means by good quality research. This should include making a difference in policy and practice?

Ethical approval systems

All TDR-funded research that involves human participants must be submitted for ethical review and approved before the research can be conducted. Where projects are financially or technically supported by WHO, WHO Ethics Review Committee (ERC) approval is required, in addition to a Local Ethical Committee (LEC) approval. The requirement for WHO ERC approval therefore applies both to research that is directly conducted by TDR and to research that is conducted by TDR grantees and funded students.

TDR reports that the implementation of a number of its research projects has been delayed by the WHO ethical review process. Delay times vary from a few months to up to a year. This applies to projects where TDR is directly involved and to projects that are being implemented independently by TDR grantees. However, respondents generally considered projects that are being implemented by grantees to have the most issues with regard to WHO ethical review. These delays in ethical approval were a cause for concern for several categories of respondents, including TDR Secretariat, TDR governance bodies, and WHO ERC.

The majority of delays occurred at the pre-review stage, because the WHO ERC secretariat considered the applications to be lacking in sufficient detail or missing fundamental ethical consideration. However, some respondents suggested that delays were also due to the WHO ERC being over-burdened. This was reportedly a particular problem during the Ebola outbreak, during which the WHO ERC had to cope with high loads of submissions requesting accelerated review.

The main reason cited for the delayed applications was that they commonly involved implementation research, which requires different ethical considerations compared to the better understood bio-medical research requirements. TDR was reportedly not the only organisation that had difficulty with securing ethical approval for implementation research, but TDR grantees particularly struggled due to TDR's capacity building policy of funding predominantly junior researchers and students, and providing grants specifically for disease control personnel who had little previous research experience. Therefore, many TDR grantees lacked sufficient experience and expertise in writing high quality implementation research protocols.

All grant proposals are reviewed by the STAC and SWGs, but this is a fairly high-level review. Given the difficulty that grantees appear to have in turning grant proposals into technically and ethically sound research protocols, it was strongly suggested that grantees need more support in this area and that TDR should take a greater role in the technical development and review of protocols. This need was acknowledged by the STAC.

An alternative point of view was that WHO ethical review should not be required if LEC approval was granted. Such an approach is possible if funding is awarded to DEC institutions that are then responsible for administering and awarding grants to local researchers (e.g. the TDR Implementation Research Postgraduate Scheme (TIPS)). This approach is likely to be suitable for small grant schemes and master's degree and PhD student projects. However, this would only be ethically sound if the LEC has sufficient expertise and capacity to effectively ethically review submissions.

- TDR's multiple capacity building efforts in good research practices and ethics are widely applauded, but grantees appear to require more project-specific, individual, and systematic support in regard to turning grant proposals into ethically sound research protocols.
- TDR needs to understand the most common reasons for rejection of protocols. This could be done by an analysis in collaboration with the WHO ERC. This could enable targeting of support in proposal writing to areas of weakness.
- Members of the SWGs (supported by STAC) commonly expressed an interest in becoming more technically involved in research projects, so their expertise could be leveraged towards this purpose. In the interests of time and cost efficiency, this could be achieved through virtual meetings. However, to do this effectively the SWGs would need to be better informed on the outcomes of ethical reviews and the reasons for rejection.
- The issues with ethics approval support the need for the RTCs to make available the full suite of short courses, including courses on implementation research ethics. There is also the option of combining with the AHPSR in their proposal writing workshops. In addition, the Implementation Research Toolkit and massive open online course (MOOC) on implementation research are well placed to offer this support.
- If TDR funding is awarded directly to regional institutions for the purpose of providing research and training grants and WHO ERC approval is not required, TDR must ensure that the LEC has sufficient capacity to review submissions effectively. Where this is not the case, institutional strengthening may need to be offered to the LEC and their capacity assessed before grants are made. Such institutional strengthening of ethics committees in DECs was widely regarded as important by regional offices and ethics experts. Where master's degree and PhD students under the postgraduate grant scheme are undertaking field work in their own country, the possibility of double ethical approval may have to be taken into consideration.

Strategic Development Fund

The Strategic Development Fund (SDF) is an experimental planning facility intended to strengthen TDR's ability to address newly arising needs rapidly. This principle seems sensible since at present some spending plans must be made 18 months in advance in a quickly changing infectious disease environment. In 2014–15 the SDF was established in the amount of $2.7 million. However, this was found to be more than needed (only the Ebola outbreak helped to absorb the funds).

For 2016–17 it is proposed to reduce the SDF to $1.1 million, probably in the form of 10 or so more or less evenly sized grants. There is a danger that the SDF could begin to be seen as an all-purpose funding 'gap filler', rather than being strategic. Use of the SDF is formally discussed by a group, including team leaders, to reduce its discretionary nature. Applications must be formally set out and final decisions are generally iterative. The Secretariat intends that one purpose of the SDF is to develop evidence for future grant appeals, though it is not yet clear that teams are addressing this.

The SDF is valuable as a means of responding quickly and flexibly. This is essential for TDR's credibility and the SDF should be protected so that it can specifically respond to unforeseen yet strategically important emerging priorities

Priority setting system

The organisational process by which TDR seeks to set priorities is laid out in its Portfolio Prioritisation Model agreed by the JCB in 2014. The priority cycle is an iterative one, reflecting TDR's governance structure. The Secretariat proposes a broad allocation of resources to the STAC and SWGs across workstreams and projects, drawing on:

- historical experience;
- team leader proposals;
- consultation with WHO disease control programmes and TDR partners regarding existing gaps;
- consultation with donors about their priorities and the likelihood that funding will be designated or undesignated; and
- ideas regarding new opportunities, from senior management and from members of the STAC and SWG themselves.

There does not seem to be systematic input into this process from M&E data from previous projects. These proposals are discussed at the STAC and by the relevant SWG.

Two sets of more specific proposals are produced by the Secretariat, reflecting an 'optimistic' and a 'pessimistic' budget scenario (see the section on planning and budget, below). Funding allocations for each proposal are divided between designated and undesignated (core) funding and these proportions will vary across workstreams. Donors have, so far, been less willing to offer designated funding to capacity building, for example, so this workstream tends to have a higher share of undesignated funding (78% of 2014–15's approved budget, compared to just 46% for research).

Following amendments resulting from discussions with the STAC and SWGs, two proposed workplans (reflecting the two possible budgets) are presented to the JCB for approval.

In previous years, interviewees felt that there was insufficient formal discussion of proposals, with too many proposals being identified by staff within TDR, with the risk of personal areas of interest being given priority.

The Secretariat expressed a wish for a further move towards a more formal and transparent approach in future, building on the prioritisation guidelines developed but possibly introducing some form of scoring. This process will inevitably be time-consuming as the governance structure means that there will always be a degree of iteration and negotiation. The benefit should be that proposals are better constructed and result in higher quality research. If there is an increasing shift towards designated funding from donors, there may need to be increased input from donors into project selection and/or provision to donors of formal transparent data on project alternatives, based on which donors can make choices.

On occasions a particular factor may appropriately override the criteria set out in the Portfolio Prioritisation Model. For example, equity is a core value for TDR and attempts to counter under-representation can influence project selection. The SDF is being used to provide 10 grants of approximately $10,000 to encourage female grant applications.

The Portfolio Prioritisation Model provides criteria against which proposals can be measured but there is no weighting attached nor is there a scoring system to allow direct comparisons. This would be helpful at all levels and would demonstrate transparency

Planning and budgeting system

As a special programme TDR is 'semi-independent' of WHO, and so has its own budget, while also being part of the overall WHO budget. This means that while it has its own finance function, TDR also has to comply with WHO financial processes and systems.

The main process for financial planning is the biennial programme budget cycle. To a limited extent there is also a longer term financial view contained in the six-year Strategic Plan, with 2012–17 (the first) in the process of completion with the current biennium and 2018–23 currently approaching preparation. Plans cover the programme, team and project levels.

More realistic budgeting has been a key factor in the return of external confidence in TDR and so makes an important contribution to the organisation's future. Budgets remain subject to change as donor plans themselves change (see section on resource mobilisation, page 54). TDR's objective is to balance the flexibility to be able to respond to such changes with the effective use of the funds that exist.

Financial management systems

There has been important progress in TDR's financial management, with a strengthened team which now benefits from a qualified accountant.

In 2011 the organisation suffered from a severe lack of information about available resources and their use. Designated and undesignated funds were mixed and unidentifiable and there was an unrecognised major deficit. 2012–13 was a period of financial recovery and the start of improvement across all systems, including the redesign of systems. Currently there is a saving of $8 million to enhance financial management and cover one year salary liability as required by WHO rules and procedures (see the section on working capital, page 53).

While the staff have financial competence they might benefit from additional information technology (IT) training. Current systems require a large amount of manual data entry and checking, and system adjustments, which limits working efficiency.

Financial and project data systems

For many years TDR used a system for project / grant management known as the TDR Information Management System (TIMS), linked to the WHO finance management system. In 2008 WHO introduced an Oracle-based enterprise resource planning (ERP) accounting system, known as GSM. However, TDR only began fully to use GSM in 2012, rather than relying on a parallel system tracking financial data. GSM entails specific awards for designated and undesignated funds, so work (and workstreams) can be matched to funds. As such, it offers traceable and potentially accurate information (depending on the inputs into it). Full, optimised application of GSM would, for example, have prevented the mixing

of designated and undesignated funding that occurred in 2011. It also works well for invoicing.

However, there are problems with GSM, specifically:

- GSM only captures project-based data to a limited extent. So some of the KPIs and other information related to a single piece of work or grant cannot be recorded or tracked;
- GSM cannot track projects that run over the end of a biennium into the next biennium;
- a large number of manual adjustments must be made for TDR to use financial GSM-generated data for reporting purposes at the project level;
- it is easy for project expenditure to be miscoded into GSM by managers;
- GSM does not always allow the use of project task names, for some of the reporting it only accepts numerical codes, making information hard to read; and
- GSM also has controlled user rights for certain sections, making it difficult for users to access or enter information; and

- at present, TDR manually outlines project-specific financial data in an *ad hoc* module relating to GSM – in a more developed fashion for designated projects than for undesignated ones. This is, in effect, a double entry of the same information.

Since 2009, in conjunction with HRP, which has similar needs, TDR has been working on the design of a new project management system called CONNECT. This would provide project management linked to GSM, avoid the need for double entry of data and enable a number of processes, including tracking of grant applications (for example, ethical approval) and generation of standard letters and reports etc. This would increase efficiency and facilitate stronger project management and internal control. The need for improving internal controls was highlighted by the WHO external auditors.

TDR agreed to act as a pilot for WHO in this endeavour, as has happened in other areas (e.g. programme performance assessment, risk management, personnel development). WHO does accept the development of modules to GSM, through a procedure called Transform (GSM-T) and, usefully, has now allowed cloud computing in principle. However, WHO permission for TDR to move forward in this has not been forthcoming, which is a significant frustration for TDR.

Some senior technical staff view CONNECT as a potential improvement, but also stress the need for an extensive grant management tool, of which several are commercially available. Such a tool could be web-based, so making application and selection of grants much easier. But this would only cover TDR's research and training grants, not other procurement contracts. TDR is currently undertaking a review of system architecture by an external consultant with WHO experience. Once this is completed, it will be in a position again to ask WHO for permission to make changes.

The current systems cannot provide sufficient information on specific grants, resulting in delays, reputational damage and increased risk. Effective project management is hampered and scarce professional time is wasted in compensating for system shortcomings. This is an urgent need which affects all aspects of TDR's work, and the lack of internal controls has been the subject of adverse external audit comment. Maximum

effort should be applied by TDR and donors to persuade WHO to grant permission for improved systems.

Operational activity planning system

TDR uses an operational activity plans, which, since October 2013, has been laid out on a Gantt chart (in MS Project) to relate activity to costs and time. This is a valuable tool but appears to be underused by the team leaders who play a key role in profiling work and resources. It is essential that this tool is produced in a timely and accurate way and is used to drive workstreams.

Risk management system

In 2012 TDR introduced a system for risk management, with risks being reviewed twice a year by the senior management team as part of the internal TDR progress review process. This followed a recommendation in the 2011 external review. The minutes of the SC do not record that the risk register is received by them, which would be normal good governance practice, and it is not clear whether it is open to scrutiny by members of the JCB either.

The TDR system is relatively new and does not yet score risk by either likelihood or by severity/ impact, although mitigation activities are recorded. It is understood that the annual risk assessment process for WHO as a whole does include scoring. The risks identified are both broad and high-level (e.g. TDR's income level not sustained) and the mitigation actions are not very specific (e.g. 'Broaden the donor base' and 'Establish and / or strengthen connections with fundraising networks'). Furthermore, all of the 17 risks identified have been allocated to either the PPM unit or the Director's Office. This suggests that there is no recognition of a management role for team leaders or other technical staff in identifying and managing risk.

Some risks have been identified as addressed and are no longer active. Given the topics, this seems unlikely and it should not be assumed that just because systems have been established they are necessarily working. Risks may be downgraded but they can rarely be removed unless a complete activity ceases.

Whilst identifying high-level risks is important, it is equally crucial to undertake risk assessment with any new initiative. If this exercise had been undertaken effectively, for example, when the postgraduate grant scheme for developing master's degrees and PhDs in seven universities was planned, it should have been possible to assess the risks relating to availability of supervisors, lack of dedicated leadership in some centres, poor response to a new sort of course etc., and to undertake mitigation. Likewise, the risk relating to financial instability (i.e. overspends/ over commitment) should not have been closed once systems were established, as the risk of misuse or mismanagement still remains (see section on costing and scheduling, page 49).

The risk management system should now be cascaded into all workstreams and risk should be assessed prior to, during and after any new initiative. Specific mitigation actions should be agreed, together with the appropriate responsibility and timescale for action, and there should be regular review of risks.

> The risk register should be made available and drawn to the attention of the SC and the JCB at their annual meetings with formal reports on risks over an agreed score threshold.

Financial processes

Forecasting funding

Prior to 2012 funding forecasts were based on an assumption that historic funding trends would continue. The cuts that were required when these funding forecasts proved over-optimistic brought instability to operations and delivered reputational damage to TDR.

Since 2012 TDR's planning has been based on a dual funding scenario system, which the organisation tries to apply conservatively, though it is still subject to funding shocks. A higher ('optimistic') biennial budget scenario is developed, based on funds that TDR believes have '80% probability' of materialising. This compares with an approach prior to 2012 in which planning was based on funding that the Secretariat characterised by some interviewees as having '60% probability' of materializing, while others described it as the director's funding target based on discussions with donors.

A lower ('pessimistic') second funding scenario is now developed with regard to funds that are thought to be near certain to materialise. The 2014–15 biennium had $50 million and $60 million budget scenarios; the out-turn budget was $56 million – a successful result from the perspective of planning and in terms of generating confidence in the organisation. For 2016–17, scenarios of $45 million and $55 million were set.

The sudden reductions in funding commitments by Sweden in early 2016 underlined the usefulness of the dual scenario planning compared to planning based on a single funding scenario. However, the lower scenario ($45 million) was not low enough, so a revised scenario of $40 million has been set. It should be noted that in fact the designated and undesignated funds are treated relatively separately, so that one area may see its budget increased while the other sees a decrease. Because the organisation has constraints in regard to reducing staffing (basically a fixed overhead) the challenges are greater when undesignated funding is lost.

> The dual budget plan does provide a measure of operational flexibility and the ability to manage risk, in that all plans are subject to some degree of scaling up or down as the income picture comes into clearer focus. However, TDR should consider developing scenario planning to accommodate greater uncertainty, either through additional (possibly informal) scenarios or through making its current 'pessimistic' scenario even more conservative.

Costing and scheduling

Good budgeting depends on good costing. To a large extent this is the responsibility of the team leaders responsible for individual workstreams. Accuracy of costing varies somewhat between workstreams.

In 2014–15 a two-day workshop was held to develop detailed operational plans for each expected result. This was the basis of the current project Gantt chart system, which identifies the scheduling for disbursement. In early 2016 this system identified a significant

impending cost over-run in the capacity building workstream, demonstrating that problems can arise in expenditure planning, though also that this tool can function to identify these in to time for remedial action.

In this instance, targeted research training grants were approved to deliver PhD and Master's degree courses at seven universities in DECs. The 2016-17 budget covered the $4,550,000 of planned expenditure to June 2017, but inherent commitments of a further $4.9m for July 2017 through to 2019 were overlooked (i.e. the second half of an individual PhD). Significant adjustments to plans were needed to reduce the foreseeable deficit to just under $500,000. These cost reductions were made in the context of parallel cost reductions due to expected funding not materialising in early 2016 (see section on resource mobilisation, page 54).

Rather than poor costing, this episode illustrated a failure properly to understand and use the planning instruments. An external consultant has been contracted to assist the capacity building team improve their planning capability, to ensure all agreed activities are better planned in future.

> The Gantt chart system is functional but does not yet play the central role in project management that it should. (It is a valuable management tool, which should help ensure disbursement to time and budget, and serve as an input to portfolio planning. Further targeted training is desirable to make the most of this system, possibly including a checklist of responsibilities for each project for team leaders.

TDR's use of funds

Over the past decade there has been a significant change in the use TDR has made of financial resources. During the years leading up to the organisation's financial crisis and in the 2012–13 'recovery' period of headcount reduction, the share of funds used for operations fell steadily to less than 30%. The current and previous biennia have seen this ratio return to a more efficient level of around 60%. Permanent staff were cut from over 100 to 30 FTE (albeit with a smaller increase in temporary/part-time positions), reducing biennial salary cost from $38 million to $17 million at present. This has made TDR more resilient to any future funding shocks, as operations can be adjusted more easily than can staff. The fact that the sudden funding reductions in early 2016 (see section on resource mobilisation, page 54) have not necessitated further staff cuts illustrates this. Operational support costs fell from $8.9 million in 2010–11 to an expected $4 million in 2016–17.

The following figure shows the evolution in the composition of TDR's expenditure by category, with all salary cost designated as personnel.

Figure 2:   TDR expenditure by category
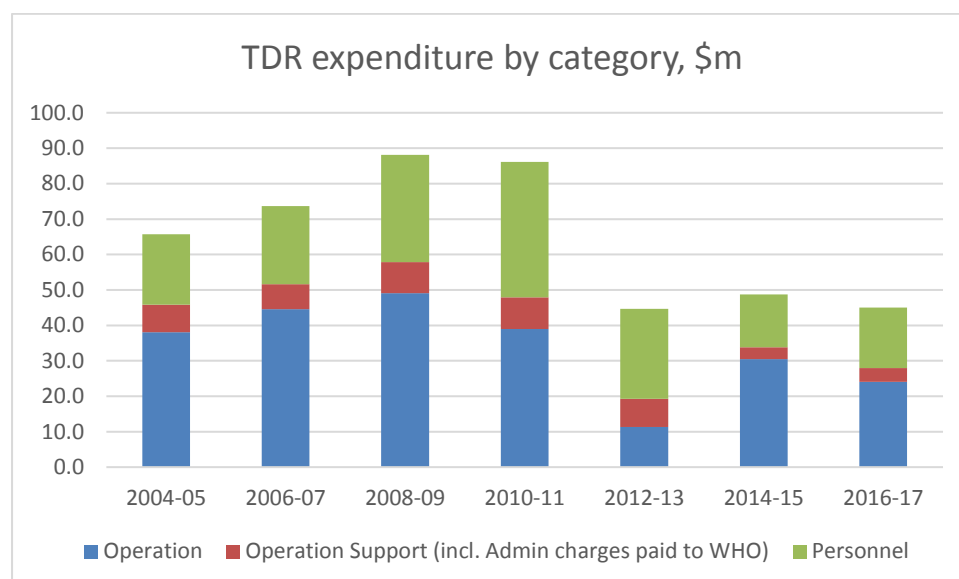
Note: 2016–17 uses the lower $45 million budget scenario, though actual income may be lower still.

While TDR has become more efficient and resilient over the last three biennia, a fall in income will have an effect. When TDR's activities are disaggregated by workstream (with salary cost apportioned to each work area) the effect of declining income can be seen in a rise in the share of budget going to operational support, from 16% by work area in 2014–15's higher budget scenario to 21% in the $45 million budget for 2016–17 (based on actual budget figures). This may also reflect a change in work focus from supporting research activities to acting as a convenor and facilitator.

The following table shows how funding divided between the three workstreams and the SDF during the last biennium. It is noticeable that RCS-KM is dominated by undesignated funding (90%), whereas VES is mainly designated funded (63%).

Table 2:   TDR expenditure, by work area, 2014–15 ($)

Work area	Expect results	Approved budget	Revised budget	Spend at 31 December 2015	Undesignated % of spend
IIR	9	11,710,000	8,445,752	7,604,450	71%
VES	6	8,350,000	6,432,106	5,501,812	37%
RCS-KM	11	15,020,000	16,490,698	15,059,828	90%
SDF	n/a	2,720,000	2,740,004	2,294,831	100%
Total	26	37,800,000	34,108,560	30,460,921	76%

For 2016–17, the following figure shows how TDR developed two budget scenarios, a more optimistic one of $55 million and a more pessimistic one of $45 million:

Figure 3:   Approved budget by work area, 2016–2017
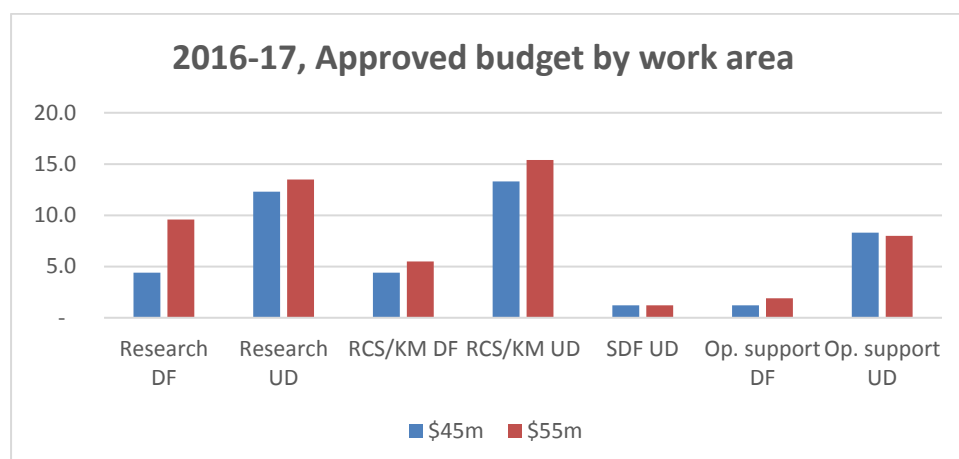
Note: DF = designated funding; UD = undesignated funding.

Note that the proportion of designated funding is higher in the $55 million budget scenario, as this is where any additional funding is assumed to arise. Due to the way that programme support costs are levied on donors for designated funding (at 13%) and also collected by WHO from TDR (at 4%) this has the effect of increasing designated funding operational support costs in the $45 million budget scenario, though this is in fact just a shift in regard to where programme support costs are collected.

Apportioning support costs to projects

In order to assess the cost-effectiveness of projects properly, as well as to account transparently to donors, there needs to be an apportionment to project accounts of all of the resources that they utilise. Since 2011, following a JCB direction, most designated funding projects are calculated to have support costs equal to the 13% of expense. According to Secretariat estimates, it is more likely that the support cost element to designated funding projects averages at around 20% taking into account the complexity of some grants, with an additional staff input from teams themselves of 10–15%, totalling around a third of project costs. However, note that there is significant variation across projects, between those requiring intensive input from technical and programme management staff and others which require only a light touch.

This issue is less acute in the case of undesignated projects, as there is not the same level of donor administrative requirements. But here too, TDR could benefit from more accurately assessing true support costs. While making accurate predictions of support requirements for projects in advance is not easy, informed assessment is usually possible as to whether these will be, for example, high, medium or low, relative to the average level.

If TDR is to become reasonably accurate in its apportionment of salary costs to projects then not only will the current assumption of 13% support costs need to be reviewed, but there may also need to be a range of apportionment rates used, depending on the project type. This should help create incentives for resource mobilisation and teams to only accept designated funded work which is genuinely cost-effective for TDR, given the administrative burdens involved.

Implementation rate

The 'implementation rate' refers to the rate at which TDR's budget is being spent (implemented), and is a metric in which the SC takes a keen interest.

Broadly, this has been achieved, with end-2015 data showing that at the start of 2014–15 there was initially slow disbursement– reaching just 35% at the end of 2014. There are several reasons for this:

- TDR had a more cautious approach following over-commitment in previous years, beginning the biennium on the basis of the 'pessimistic' budget scenario;
- there was a new project portfolio, due to TDR's new strategic direction, and there was often a delay before projects could absorb significant funds;
- there was also a revised structure, which similarly took time to become fully operational; and
- there is also often a delay in the delivery of committed donor funds.[1]

The low rate at end-2014 led to the SC deciding that raising the implementation rate was a priority, with a 100% target being established. All three work areas implemented close to 90% of their budget.

Figure 4:   Implementation rates by work area, 2014–2015
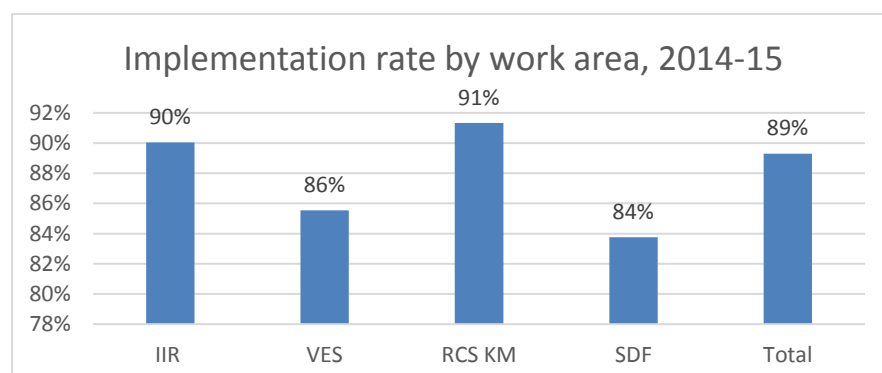
An extreme focus on achieving a high implementation rate raises questions about the quality of spending if it is forced through in the first part of a biennium. However, given the more settled structure and portfolio (and at present a declining budget), it is likely that implementation rate considerations will not dictate TDR's activity excessively in the current biennium. Also, the focus on implementation and the high rate achieved has served to address the issue of whether or not the reduced size TDR is able to spend funds of the order of $50 million. This has proved achievable and it is likely that the high implementation rate has generated additional funding than would otherwise have been the case.

Working capital

Previously, donors wanted all of TDR's available funds to be spent within the biennium – i.e. an all-encompassing budget and a 100% implementation rate. However, there are good reasons to maintain some financial flexibility by maintaining a fixed sum separate from the budget:

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[1] Norway will not pay its 2016 contribution until November 2016.

- to deal with any over-commitments (avoiding the mixing of designated and undesignated funding that occurred in 2010–11);
- to cover delays in the provision of donor funds; and
- to meet a WHO requirement to hold at least 12 months of permanent staff salaries.

Given this, the SC agreed that TDR could hold $8 million (indeed, salaries for one year) as 'working capital'. This is kept off budget, which means that it does not affect the implementation rate. The $8 million effectively serves as a permanent surplus, and contrasts with the deficit of $14.5 million run up in TDR's financial crisis.

This working capital provision serves as a sensible risk management mitigation tool. However, it would be worth considering increasing its level – both for increased safety (WHO is considering raising the required level to 24 months of salaries). If such an increase was made, it would be preferable to phase it in gradually, rather than seek to remove the funds in one step from a funding level that is currently under pressure.

Measuring the success of financial and planning processes

There is no single measure for financial and planning competence. Importantly, TDR completed the planning and budgeting cycle on time and the income forecasting for 2014–15 was accurate. 2016–17 has started less accurately, though it is hard to see how sudden reversals of decision such as Sweden's and Norway's can be forecast. Financial systems are currently sub-optimal, but the Secretariat seems to apply them as well as can be expected. TDR has a good reputation within WHO for managing its finances and this has been one of the reasons why the World Health Assembly (WHA) suggested it manage the HPRDF

Resource mobilisation

Working with funders and potential funders

The resource mobilisation function is situated within TDR's Director's Office: TDR is voluntarily funded by national, multilateral and non-state donors. The voluntary nature of the funding confers inherent uncertainty regarding funding volumes. The resource mobilisation function is therefore a key one, but the resources given to it are probably insufficient. The view was expressed by interviewees that increased efforts (which are impossible with a part-time input from an individual who is already over committed) could result in significantly greater income.

TDR's resource mobilisation function is, according to the Secretariat, 'a skill in development', and there is an apparent willingness to adapt. The importance of the work, the range of relationships that must be maintained and the inputs necessary for optimal maintenance of these relationships in the current environment all argue for a well-resourced function within TDR. This probably means appointing a professional with specific experience, competences and established networks. The single person currently performing this function (and many others) does well under the circumstances, but the organisation suffers from insufficient human resources here.

There would seem to be an argument for appointing a dedicated resource mobilisation specialist who would both undertake some part of this role but also coordinate efforts by all the senior managers. Resource mobilisation should also be a designated responsibility for each team leader and there is an argument for setting annual targets in their personal objectives.

Every effort should be made to work with donors (and donor communication teams) to publicise the benefits flowing from their contributions. This will require close attention to be given to donors' political commitments and national debates. Again, the need for a strengthened M&E function with the role of identifying benefit hampers this work and should be given consideration. This function would have close links to knowledge management.

The relationship with co-sponsors and some donors could also potentially be strengthened, making TDR a 'preferred provider' for given activities, e.g. as they seek to gather evidence for policy. This might act to offer some of the same security that a multi-year agreement could provide.

- TDR should increase the inputs available for resource mobilisation and ensure that all team leaders have personal annual targets.
- There would seem to be an argument for appointing a dedicated resource mobilisation specialist who would both undertake some part of this role but also coordinate efforts by all the senior managers.
- Likewise, TDR should consider the need to strengthen the M&E function to improve the identification of benefit.

Recent funding

Note that designated funding refers to funds for which donors have specified their use, whereas undesignated funding allows TDR discretion over their application.

In the 2014–15 biennium, $50.3 million was committed by donors (i.e. carried over funds excluded),[2] 77% of which was undesignated. This represented a similar level to that in 2012–13, though it is well below the funding levels prior to TDR's financial crisis (in excess of $80 million). Overall, the four leading donors accounted for 50.2% of funding in 2014–15.

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[2] $175,000 of this has not yet been received – from Portugal, Spain and India.

Figure 5:   **Undesignated and designated funding, 2014–2015**

2014-15 Undesignated: $38,985,884

- SWEDEN
- UK (DFID)
- BELGIUM 2014-2017
- SWITZERLAND (SDC)
- NORWAY
- LUXEMBOURG
- WORLD BANK
- 16 OTHERS

Note: excludes carried over funds

2014-15 Designated: $11,332,852

- IDRC
- GATES
- UNDP
- USAID
- EU
- GIZ
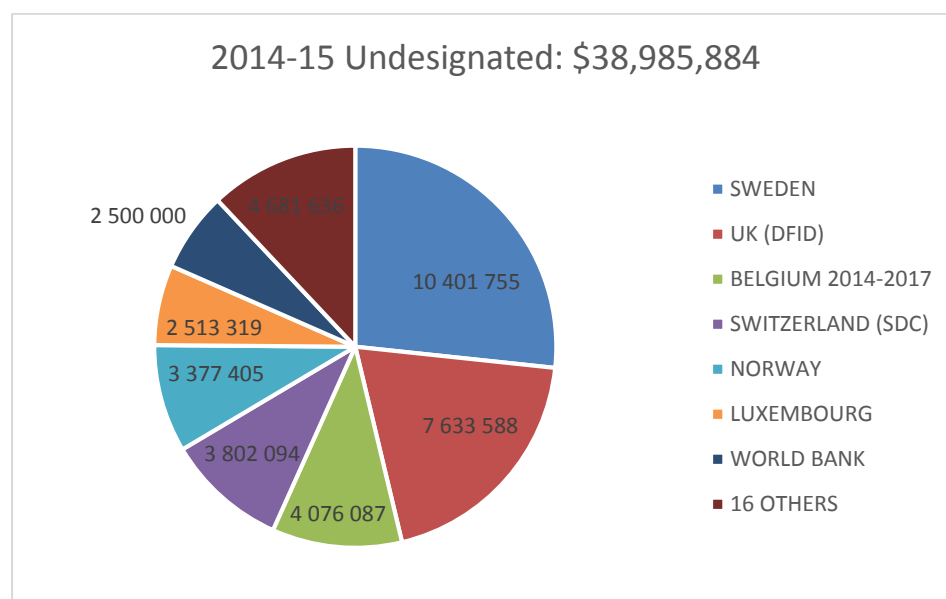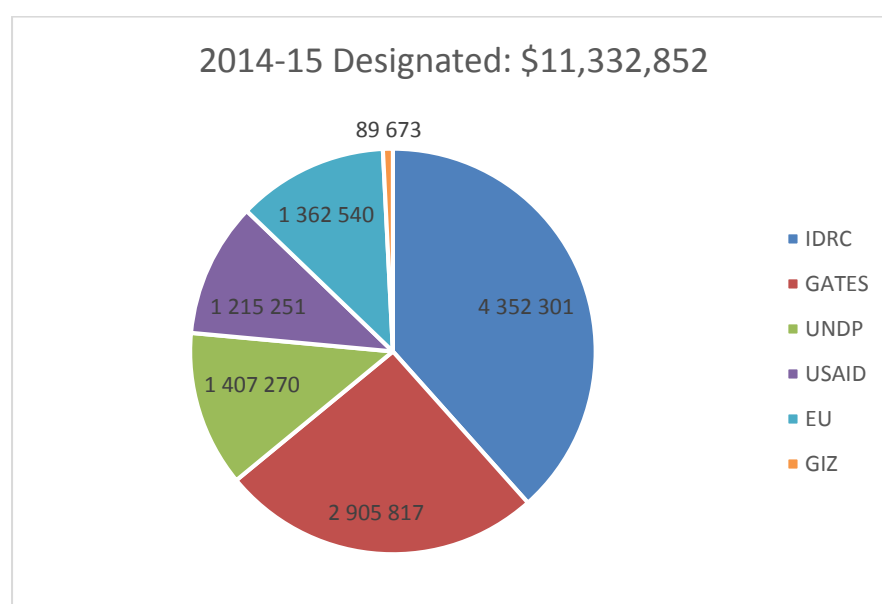
Note: excludes carried over funds

Current projected funding

Estimates in February 2016 of funding for the 2016–17 biennium showed declines in both undesignated and designated funds, to a total of $40.7 million, with 74% undesignated. Moreover, there were two significant reductions in funding: Sweden ($3.1 million from undesignated); and the International Development Research Centre (IDRC) ($2.5 million from designated) and, in the first case, this was with minimal notice. Based on reductions in 2015, there might also be additional reduction for 2016-2017 which have been taken into account at a level of $1.1 million. The four leading donors currently account for 52.9% of funding.

Figure 6:   Undesignated and designated funding, 2016–2017

2016-17 undesignated funding: $30,090,870

- SWEDEN — 7 280 000
- UK (DFID) — 6 106 870
- BELGIUM — 4 000 000
- SWITZERLAND (SDC) — 3 800 000
- NORWAY — 2 400 000
- LUXEMBOURG — 2 600 000
- WHO — 1 800 000
- 16 others — 2 104 000

2016-17 designated funding: $10,635,962

- GATES — 4 068 907
- USAID — 1 300 000
- UNDP — 800 000
- IDRC — 87 023
- Various (carry over) — 4 380 032
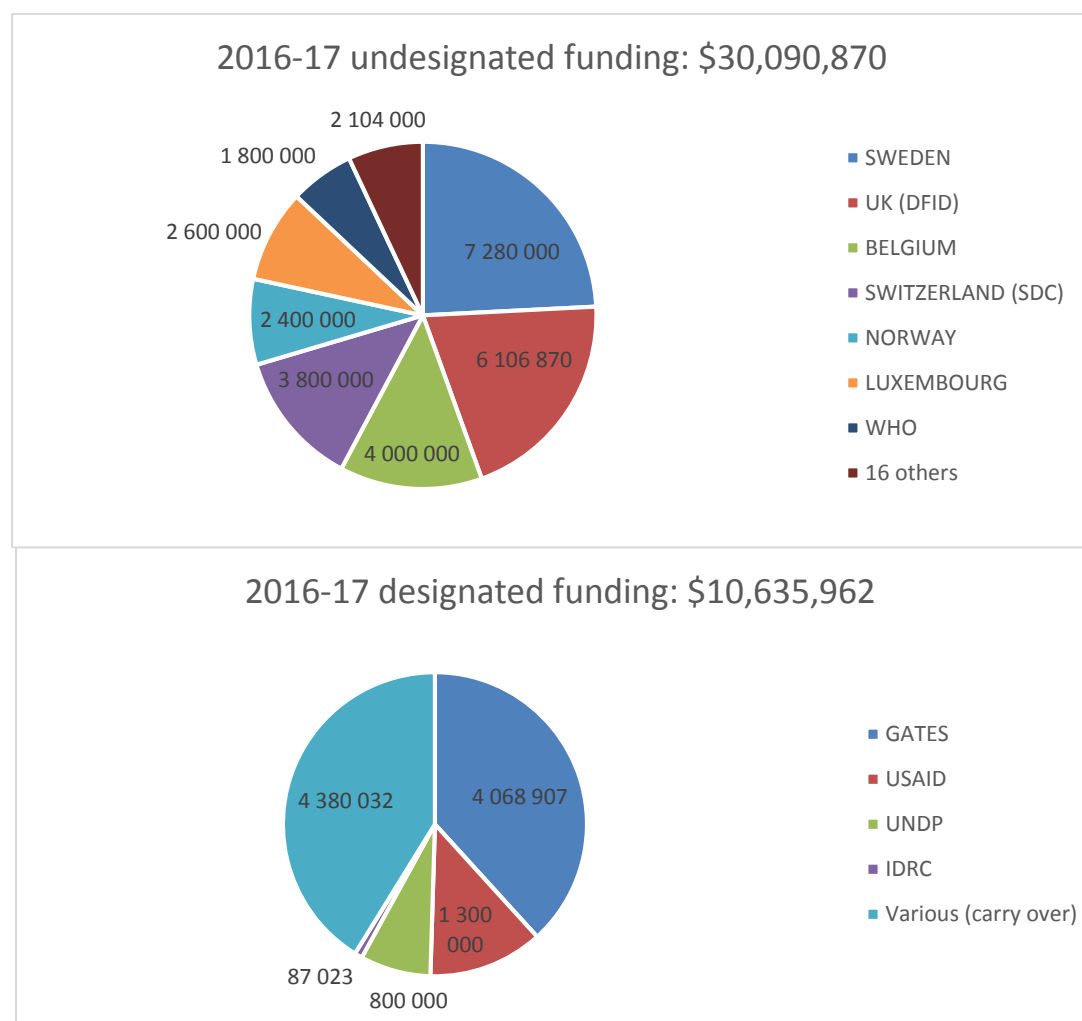
Funding sustainability

For TDR to enjoy sustainability of inputs and flexibility in planning its funding needs several qualities:

- a total level of funding that is sufficient for TDR to continue to play its role effectively, while not being too much for the organisation to absorb and implement effectively;
- a balance between designated and undesignated funding – the former is a good means for increasing funding volume and offering transparency, the latter provides important flexibility for TDR to set its own course;
- a significant share of funding being guaranteed over a multi-year period, to allow better security and longer term planning;
- a diversity of funding sources such that there is limited dependence on a small number of donors (which increases risks of funding shocks); and
- not too burdensome a rate of transaction cost per donor relationship, relative to the donor's contribution.

The UK Department for International Development (DFID) is currently the only multi-year funder (undesignated funds) of TDR, with a five-year agreement, frontloaded to help with

TDR's financial crisis. This will end next year and there may potentially be a challenge in regard to securing renewal. TDR's potential contribution to health security may help in obtaining ongoing support.

Bilateral donors tend to have difficulties in making multi-year commitments due to resistance on the part of their respective parliaments. The Gates Foundation, an important non-state donor, commits only designated funds. Efforts to reduce dependence on a small number of funding sources have had limited success to date, as the increased share of funding from the four leading donors illustrates (three of these are north European).

Smaller donors may be symbolically important – e.g. DECs – but also represent high transaction costs relative to the amount of funds provided. Given the limited human resources within TDR's resource mobilisation and technical functions, every interaction with a donor has a significant potential opportunity cost, in terms of lost ability to work with other (possibly more fruitful) potential donors.

The current level of funding has proven sufficient to cover fixed costs (i.e. $8 million annual salaries) and to allow TDR to undertake significant work, while at the same time not being too much for TDR to absorb (see section on implementation rate, above).

TDR sets targets for funding in the PAF through key performance indicators (KPIs). The target of KPI 19 is that at least 100% of the approved biennial budget should be funded by 2017, compared to just 78% in 2011. The late commitment reductions of early 2016 show the difficulty of holding TDR rigidly to such an indicator. The KPI 20 indicator is the proportion of income that is in the form of multi-year agreements. There was no baseline in 2011, but an estimated level of 14% was achieved in 2014–15, including all of DFID's $7.6 million award.

> The desire to diversify funding sources should not be taken as simply an impetus to establish new donor relationships without reference to the 'quality' of funding – i.e. transaction costs; likelihood of significant fund volumes; undesignated funds status; or of multi-year agreements.

Systems for measuring benefit

Publications

At present publications are used as a key indicator for gauging project benefit. Certainly publication is a useful reference in that, if it is in a peer-reviewed journal, it suggests a certain minimum standard of research has been met. It is also a way of disseminating research findings and a relatively easy indicator to measure. However, published articles will vary in their effects. Measuring the number of citations over, say, five or seven years may be a reasonable proxy for the effectiveness of a publication.

Building capacity

Many benefits will materialise far beyond the period of TDR's PAF and Strategic Plan. This is particularly the case with capacity building, which may deliver a benefit three or four decades beyond when a course or grant was given. More generally, TDR's focus on implementation research rather than basic science means that benefits will be shown in

changes to policy development and implementation though it may rarely be the case that full attribution will be due to TDR.

TDR Global offers the potential for the measurement of benefits flowing from capacity building activities, through career tracking, as well as creating additional benefits in its own right through assisting in the establishment and maintenance of networks and the exchange of information. It will be important for the dataset to contain all relevant fields, particularly publications.

Measuring the benefit of support to implementation research may be more problematic given that the aim is to support countries to overcome barriers to putting evidence-based policy into practice. Identifying where research evidence has contributed to policy is notoriously difficult and establishing where it has helped overcome barriers thereafter is even more so. The use of case studies in the e-newsletter has been helpful in providing some examples in this regard.

There are few other major investors in capacity building, particularly in implementation research and even less in this approach applied to diseases of poverty. This offers an important opportunity to TDR if it could deliver credible evidence of benefit. This would be of particular interest to donors with manifesto commitments related to domestic benefits (e.g. DFID). Whilst TDR Global has the potential to support this, the metrics from this source are many years in the future.

While the cost of gathering evidence of benefits must be borne in mind, measuring the benefit of TDR's activities is important enough that TDR should consider a permanent position devoted to M&E. Again, this is an investment that could pay for itself in terms of increased benefit and, potentially, increased resource mobilisation.

Clearly the knowledge management function has a significant role to play in demonstrating benefit and co-location structurally should be considered.

Consideration should be given to strengthening M&E function to identify benefit.

The next Strategic Plan should give considerable attention to identifying how TDR delivers benefit, including through:

- publications and their citation;
- evidence of research into policy;
- evidence of convening;
- evidence of leverage (see below);
- evidence of good management of supported initiatives (HPRDF, ESSENCE etc.);
- strengthened institutions (using agreed institutional competences); and
- strengthened individuals (using information from TDR Global).

Leverage

TDR has produced a document 'Leveraging Resources in the Field Against Infectious Diseases – a Pilot Assessment' (2013), which recognises that 'Measuring leveraged

resources is not an easy task, especially for complex activities involving numerous stakeholders in a wide geographical area'. The document looked at a sample of projects during 2007–13, finding that $2.5 of additional funding was leveraged from each $1 spent by TDR. This calculation included estimates for the value of personnel, technical support, coordination, facilities and continuing control programmes. The project sample leaned particularly towards vector control. Review interviews also identified instances of partner resources being leveraged by TDR, though not always in relation to specific projects, e.g. WHO regional offices.

Undoubtedly TDR does leverage contributions from other organisations and its reputation is an important asset for this process. However, it is challenging not only to identify the associated contributions of other organisations (as the TDR study did) but also to guarantee that these contributions were genuinely additional – i.e. if they were not associated with TDR, might they not have been made anyway (in accordance with some prior resource allocation decision for example)? A good example of this relates to the RTCs that were delivering additional short courses over and above those funded by TDR. In many cases these predated the TDR support, although the courses may have been revised in line with improved content development.

As is often the case, attribution is an issue. TDR may claim all of a partner's associated contribution as leveraged resources while the same partner may simultaneously claim TDR's contribution as resources that it in turn leveraged. It is also very hard for TDR to capture longer term effects, for example resources that one of its recipients captures some years after support from TDR and as a result of that support. Leverage estimates will never be an exact science, but it is still worthwhile carrying out some analysis and looking for evidence to use when advocating for funding and demonstrating benefit.

Working in partnership

Working with regional and country-level offices

In 2012, TDR developed a Framework of Collaboration, with terms of reference for working with regional and country offices. This had the aim of improving coherence, information sharing and harmonisation of effort. It was planned that a number of mechanisms would be used. These are documented below with a summary of progress to date.

Table 3:   Summary of Framework of Collaboration progress

Mechanisms and activities	Findings and recommendations
Regional expert consultations on research priorities	These exercise are happening but with differing levels of consultation in each region. The priorities appear to be used for calls for regional small grants, which are inappropriate and inadequate to address some of the topics put forward (e.g. WHO Regional Office for Western Pacific (WPRO) 2015). These priorities need to feed into STAC's priority-making exercises for the organisation as a whole.
Bi-annual workplan for each region outlining budget, roles and responsibilities	"Workplans" were developed for 2013. These are primarily a list of TDR activities taking place, globally with two regions adding in regional activities as well.
RCS-KM workstream to act as the TDR focal point for regional offices and to promote a TDR-wide approach and information sharing	This does not appear to have been implemented, although costs of meetings with regional office focal points are budgeted to this workstream. Annual meetings chaired by partnership and governance manager.
TDR works with focal points who facilitate expansion and optimise interfaces with other regional office programmes	It was difficult to identify specific examples of this.
Communication: Regular teleconferences Exchange information on visits, planned meetings etc. Optimise participation in JCB and STAC	Undertaken by partnership and governance manager. Not yet consistently undertaken although felt to be improved. One regional office participant at JCB 35 (2012). Not invited to subsequent meetings. Six regional office participants at STAC 34(2012). Not invited to subsequent meetings and input obtained through annual meeting.

The activities outlined in the Framework for Collaboration appear to have evolved and are now largely undertaken in an annual meeting. Responsibility for chairing the meeting and undertaking the teleconferences has also been allocated to the partnership and governance manager, although costs are charged to the RCS-KM budget.

The summary of decisions taken at the annual meetings suggests that regional focal points feel that communication has improved and this was confirmed in interviews. However, the exercise of identifying potential research gaps, capacity building gaps and collaborative activities needs to be more systematically tracked into the overall organisation priority setting and planning exercises.

The current Framework of Collaboration does not reflect the coordination and consultation activities that are taking place and requires revision. Whilst there is an argument for this

collaboration to be undertaken under the partnership function, it is suggested that consideration should be given to lead responsibility (not just budget availability) being with a technical workstream, as originally envisaged. If it is retained in the partnership function, the budget should be transferred.

Working with other departments in WHO

It is clear that TDR has increased its collaboration with other WHO departments and programmes. The review did not attempt a comprehensive review of all the ways in which TDR has worked with partners but the following examples are indicative:

- TDR worked closely with AHPSR and HRP in a partnership to develop the Implementation Research Toolkit. Whilst the product of this collaboration was very successful it has not been built upon by the three participants and opportunities are still available
- the Global Malaria Programme (GMP) were particularly complimentary regarding VES's collaborative approach to their work on integrated community case management of childhood diseases, in which a TDR staff member was embedded in GMP; and
- TDR worked with the Human Immunodeficiency Virus (HIV) department in 2014/15, providing advice and methodologies to identify the potential for implementation research. The HIV department used the Implementation Research Toolkit and TDR provided facilitation. Whilst this was a relatively small piece of work it is indicative of the way TDR will work with partners inside WHO and it also highlights the potential for TDR to use its knowledge of research methodologies to undertake peer capacity building.

It is evident that the director has ensured that TDR has stronger links with disease control programmes and its function at the time of disease outbreaks in providing research evidence and supporting the identification of research priorities has been greatly valued.

Access and Delivery Partnership

TDR is working under an inter-agency agreement with UNDP and PATH on a Japanese-funded initiative called the Access and Delivery Partnership (see section on RCS-KM workstream, page 73). This is a good example of providing mutual benefit with a co-sponsor.

The focus is on strengthening country capacity in five major areas. TDR is responsible for two of these areas: strengthening the capacity of countries to monitor the safety of new health technologies and strengthening the capacity to identify and address country-specific health system needs for effective access and delivery of new health technologies. Within TDR, IIR and RCS-KM collaborate to implement the project activities in line with their respective work plans (IIR for safety monitoring and RCS-KM for implementation research).

The Structured Operational Research and Training Initiative

The Structure Operational Research and Training Initiative (SORT-IT) is a collaboration between TDR, the International Union against TB and Lung Disease and *Médecins sans Frontières*. The programme is based on a proven workshop and mentorship-training model. The focus is on enabling national public health workers to use their country's own data to conduct research that can lead to local health system improvements. Participants work on

topics such as multidrug-resistant tuberculosis, malaria, neglected tropical diseases, maternal and child health, HIV and non-communicable diseases.

SORT-IT activities can be delivered as stand-alone courses or as programmes of activities consisting of up to eight phases over a three- to four-year period. The eight phases involve:

- Phase 1 – Determining a country's needs for operational and implementation research;
- Phase 2 – Provision of an integrated operational research and training course. This involves workshops and mentoring over a one-year period, focused on delivering a research project;
- Phase 3 – Follow-up activities to disseminate the research findings;
- Phase 4 – Further workshop on translating research into practice, conducted with EVIPnet;
- Phase 5 – Presenting research papers to national authorities;
- Phase 6 – Identifying further research and capacity building needs;
- Phase 7 – Operational/implementation research fellowships; and
- Phase 8 – Assessment of the SORT-IT programme.

A total of 13 regional or national SORT-IT programmes are underway in Central Asia, Eastern Europe, Latin America and the Caribbean, southern Africa, Colombia, Guinea, Kenya, Liberia, Myanmar, Peru, Sierra Leone, Suriname and Ukraine.

In 2014, SORT-IT contributed 84 of a total of 227 publications supported by TDR (37%). SORT-IT was considered to have resulted in more female first authors producing research and to an increase in the number of different DECs from which first authors were drawn. It is possible that SORT-IT is also contributing to an increasing number of TDR-supported papers on topics related to HIV.

Respondents commented extremely positively on the SORT-IT programme. One said that it was '*excellent*' because the research was '*demand-driven and embedded, it makes things change'.* Another commented that many of SORT-IT's papers had changed policy.

An evaluation of SORT-IT, conducted by the Technopolis Group for DFID in 2015, concluded that following the course, a total of 272 articles had been published in 84 scientific journals. The evaluation also documented positive spill over effects, with participants sharing knowledge, mentoring and teaching related to operational research with their colleagues, participating in operational research projects outside their own department and using operational research findings in their daily work. Participants also reported that acquiring operational research skills had boosted their own careers. The evaluation concluded that the approach was highly effective

Acting as convenor and Secretariat

HPRDF

In 2015, the WHA asked that TDR should explore the possibility of acting as host to the HPRDF (WHA67(15)). TDR was asked to develop options for how to finance and operationalise this. At the time of the review the proposal was not finalised, but draft proposals contemplate:

- funding of the order of up to $100 million annually over 10 years;
- a project portfolio for vaccines, diagnostics and treatments, including both short-term repurposing and longer term discovery efforts;
- the expected launch of around 10 significant products by 2030;
- transparent operation, with clear objectives and evidence-based decision-making processes, involving a dedicated SWG (governed by the JCB, SC and STAC – subject to overall oversight by the WHA); and
- the need to develop a methodology for accepting new funders and maximising leverage.

The new SWG would be aided by the development of new tools, including a compendium of target product profiles and a framework for prioritising projects and guiding investment decisions.

An administrator had been hired, on a temporary contract, for an initial demonstration phase, overseeing funding receipt and reporting against work plans, with a current budget of $8.3 million. Six demonstration projects have been agreed, three of which have been launched, involving African Network for Drugs and Diagnostic Innovation (ANDi), Medicines for Malaria Venture (MMV) and DND*i*. WHO's Global Observatory on Health R&D is also being supported, including assisting WHO in developing a disease prioritisation mechanism. TDR is holding the fund for the demonstration projects, but this is separate from the building of the fund model.

TDR's proposals cover the financing and downstream coordination mechanism that would execute this disease prioritisation policy. TDR would thus determine the operational priorities to address the disease needs set by WHO; coordinate donors, including via a new forum; and administer a fund of additional money, accessed with help from WHO's convening power and building on a range of existing funding experiences.

A range of fund sizes have been reviewed, from less than $1 million to above $500 million annually. Staffing needs have been assessed as being from one to 40 staff members, depending mainly on the funding volume.

There are both benefits for TDR in hosting this body and considerable risks, as follows:

- The WHO diseases prioritisation process is as yet unknown, and would form the basis of the HPRDF's work.
- Initial estimates are that if the HPRDF were to grow beyond $100m (10-12 staff) then it would be inappropriately large relative to the rest of TDR and TDR should take only a shorter term incubator role.
- It is unclear to what extent TDR is responsible for the technical outputs of these projects, although its name will be associated with either success or failure.
- The HPRDF would have an unknown long-term effect on TDR funding. Norway has already seemingly switched $1.1 million of funding from TDR to the Pooled Fund for 2016–17. To what extent will resources be additional?
- There is also a strategic issue in that the HPRDF may be perceived as TDR returning to product development. An important part of TDR's message to stakeholders since its crisis has been the importance of the organisation's departure from this field.

- However, the HPRDF also offers significant visibility for TDR, which may bring other benefits.
- Given the current R&D and policy landscape, some version of the HPRDF may well happen, potentially making it incumbent on TDR to try to shape this process in a positive way if it is to meet its responsibilities and remain relevant within its mandate.

The JCB currently judges that the likely benefits of the HPRDF outweigh its risks. Further development of the pooled fund will be decided at the next WHA.

It is difficult for the review to make more definitive comments on the proposal, given that it is not yet finalised and without some assessment of the volume of support it might attract.

Key issues for the SC and JCB to consider will include:

- How will TDR manage reputational risk within the fund if it is not primarily involved with technical implementation and quality?
- How large is the administrative burden likely to be and how can the risks of distracting TDR resources and management be managed?
- How can financial risks be mitigated, including foreign exchange risk?
- How will a decision be made about how, when and if to spin this off as a separate organisation?

To ameliorate the risks of the HPRDF coming to dominate TDR, absorbing too much management resource, donor attention and bringing excessive risk there should be agreement about a transition strategy when it reaches a given size. At this point, the Pooled Fund should be separated from TDR, as other partners, such as MMV and DND*i*, have successfully been.

ESSENCE

ESSENCE is an international collaboration between research funders, development agencies, philanthropists and multilateral initiatives working with the aim of coordinating, harmonising and aligning funding and research activities with countries' health agendas. It aims to harmonise the way that research is funded in an effort to improve the impact of investments and to enhance both research capacity and the conditions for carrying out research worldwide.

TDR contributes to ESSENCE by being a permanent member of its steering committee and hosting its secretariat, which provides management and administration functions. Both these roles are performed by TDR's partnerships and governance manager, who dedicates roughly 30% of his time to this end.

ESSENCE has been operational for seven years and recently commissioned a review of its work. In summary, the review found that ESSENCE is valued by its members and appears to contribute to consensus building and informal coordination amongst research funders. However, the primary mission is unclear, more outcomes could be expected, management and governance could be strengthened, issues of sustainability need to be addressed, and the value of ESSENCE needs to be better communicated. These findings are closely aligned with respondents' opinions collected through this review.

TDR's contributions to ESSENCE in the form of the partnerships and governance manager's time are highly valued by ESSENCE members. They reflect positively on TDR as a whole through association with ESSENCE, especially because TDR hosts the ESSENCE website and publishes good practice documents. Working closely with ESSENCE also supports the partnerships and governance manager's main responsibilities by providing TDR with a forum for developing contacts and inter-personal relationships, gathering intelligence on donor trends and planning for new initiatives. These activities also increase TDR's visibility, which provides an opportunity to show the new, more effective and confident face of TDR.

However, the weaknesses highlighted in the review of ESSENCE could reflect badly on TDR. While some of these problems are associated with TDR, such failures are mainly the collective responsibility of ESSENCE's leadership and the result of insufficient resources being provided to the secretariat. Therefore, TDR could be held accountable for problems over which it has little influence. Furthermore, contributing to ESSENCE puts a strain on TDR's resources and occupies a significant proportion of the time of a senior member of staff. This provides a good example of the sort of risk which should be captured as the risk management system is cascaded down through the organisation.

TDR should continue to contribute to ESSENCE through membership of ESSENCE's steering committee and by hosting the ESSENCE secretariat. However, the partnership and governance manager's role should be limited to more strategic engagement in line with the dedicated funding supporting the position. This would free up the partnership and governance manager's time, and the resources saved could 'buy' more time on the part of an administrator, who could perform the basic functions. Investing more administrative time may also help resolve the issues with management processes cited in the ESSENCE review, which would reflect positively on TDR.

The risks (financial and reputational) to TDR of being associated with ESSENCE should be formally assessed.

Communication

Although previously TDR had several staff working on issues related to communications, advocacy and external relations, this work is currently conducted by one communications manager, located organisationally within the Director's Office. The communications manager participates in weekly management meetings and works closely with the knowledge management manager. Both of the TDR staff members working on communications and knowledge management took part in a meeting in Nairobi in March 2015 to establish a new research uptake network (ResUp).

Communications – Approach and methods

A major focus of TDR's communications since the last review has been on rebuilding the organisation's credibility following the financial difficulties encountered. This relatively simple approach focused on trying to reconnect with people. It was based explicitly on the findings and recommendations of the last review and a process of stakeholder interviews. These showed that people did not understand what TDR was doing, what TDR's systems were or whether TDR's work was valuable or cost-effective. There were also questions over the role of WHO and TDR's previous director. So, TDR's approach to communications

has sought to show that TDR is an organisation that is effective, listens to stakeholders and has an effective director. TDR used to produce a printed newsletter two to three times per year. This has been replaced by monthly e-news (see Box 2). Circulation is reported to have increased four-fold and figures for website use increase when the e-news is posted. The communications manager writes a letter from the director focused on human content using his own language.

Box 2:   Example of TDR monthly e-news

Source: www.who.int/tdr/news/en/

As part of the celebrations of its 40 years of existence in 2014, TDR launched a series of alumni profiles. These were considered successful and have been retained. It is reported that many people view the profiles and those who have been profiled provided positive feedback about the experience.

Other communication products and tools produced by TDR (see Figure 7) include:

- annual reports to the JCB focused on and providing donors with information they need for their own reporting;
- two-page spreads on current and future work for the WHA. These documents are translated into French but all other materials are in English only;
- a brochure concerning the proposed HPRDF; and
- a TDR snapshot focused on presenting the options available for researchers.

Figure 7:   Examples of TDR communication products

In addition, TDR communicates with different stakeholders using social media, including LinkedIn, Twitter and the TDR website.

> *'TDR communicates well – both via its website and through panels at meetings.'*
> STAC member

Effectiveness of communications

Respondents reported that TDR's approach to communications has been effective. The monthly e-newsletters from the director (see Box 2) have been particularly effective as they are reported to have personality, and people report liking them.

However, the following issues were also raised:

- a wish to see the newsletters summarising and presenting the most important new research findings and content;
- a feeling that the newsletter was considered to be too inward looking and should cover more what is happening in implementation research globally. However, this appears to have been what Tropical Disease Research to Foster Innovation and Knowledge (TropIKA) attempted to do without success;
- a concern that communication methods assume Internet access and that it would be good to have more products available in languages other than English;
- a suggestion that African governments do not know about TDR and its impacts;
- a reminder of the importance of communicating with policy-makers in order to get research into policy and practice and, to do this, there is a need to engage more at country level; and
- a suggestion that while TDR communicates well with an inner circle, there are a broader group of stakeholders who know little, if anything, about TDR.

Challenges

- While it may have been entirely appropriate to focus on the skills, competencies and achievements of TDR's director, in particular, when the aim of communications was so focused on restoring TDR's credibility, there may be need, now that TDR is considered to be stable and led well, to broaden this focus.

- There is an inherent risk of a loss of institutional memory in a department that only includes one person. There does not appear to be a process of succession planning in place for this important role.

- While the issues differ from those noted at the time of the last review, explaining simply and clearly some of the complexities of TDR's work remains one of the most challenging aspects of the organisation's communications work. There have been particular challenges in terms of the proposed HPRDF, the terminology used when referring to the diseases on which TDR focuses and the term 'implementation research'.

- Although TDR does recognise a core group of stakeholders for communication purposes, this group has expanded over time with the establishment of regional training centres (RTCs) and postgraduate training centres.

- There are ongoing challenges of assessing the impact of TDR's communications activities. Use statistics are collected, e.g. from Twitter, but the communications manager is not confident about using these as the basis of a system for measuring impact. It is likely that capturing the impact of TDR's communication activities will require case studies and stories.

- Given that the credibility of TDR and its director have been re-established, it may be helpful for future communications about TDR to focus on the broader staff team.

- Communications products could focus increasingly on the content and findings of research supported through TDR. However, this overlaps with work on knowledge management. It may be worth bringing these two elements together as '*research uptake*'. This ties in well with TDR's focus on implementation research.

- Clarifying what TDR means by key terms such as intervention and implementation research would make the work of those who seek to communicate what TDR does easier.

Performance of the Secretariat against OECD/ DAC criteria

Relevance

TDR has significant relevance both in relation to the traditional diseases of poverty but also in relation to emerging threats such as Ebola and Zika. There is no other body in the field with the convening power of TDR, nor its diversity of key engaged stakeholders. The current Strategic Plan still has relevance although it is necessary to note that the agendas of both funders and co-sponsors have changed over time. TDR remains highly relevant in respect of the SDGs, given its work on the interface with society and the environment as well as it contribution to Goal 3 (Health).

The structure of the Secretariat follows the key focus areas of the Strategic Plan and provides an appropriate range of services for effective management of the programme.

TDR has changed its role from product development to implementation research. This is felt to have relevance in supporting the introduction of evidence-based policy in low- and middle-income countries (LMICs). TDR's role has built on its strengths as a convenor, facilitator and host to initiatives involving multiple partners. There appears to be yet further scope as a peer supporter for capacity building in implementation research in WHO and possibly other co-sponsor organisations where this has considerable relevance.

The proposed HPRDF raises a major question for TDR regarding the role it seeks to play in the fight against neglected diseases. Depending on the answer given by the JCB and WHA, TDR may embark on a revised strategic path.

Effectiveness

TDR has made significant improvements in its reporting frameworks and KPIs, although there remains room for improvement regarding financial indicators and workstream reporting of capacity building and other research outputs. Overall, TDR performs well when measured against this assessment framework. The main challenge for the next strategic period will be defining and measuring progress in regard to the longer term benefits of its work. This challenge is not unique to TDR, therefore TDR could exploit current partnerships and work collaboratively with other organisations on this endeavour.

The new director is widely acknowledged as having been extremely effective in rationalising and restructuring TDR and restoring the programme's credibility. He is recognised as having a compelling vision and the skills to communicate this and obtain support and cooperation.

In general, the Secretariat is well regarded and it is felt that it does 'a good job'. Many managers in WHO stated that they were the leading unit in terms of management. The administration of governance structures works well, the communication function is felt to have widened the reach of the organisation and the workplans demonstrate expected achievements in focal areas.

Whilst the structure is largely appropriate there appear some residual mismatches of competence against post which may be a result of transitioning and downsizing.

Efficiency

It is difficult to judge efficiency fully but the rationalisation following the financial difficulties in 2011 has resulted in a much leaner organisation

The efficiency of individual elements of the programme is difficult to assess given that many workstreams are spread across several countries, with very different costs. Thus one cannot compare the postgraduate grant scheme across all the countries and information is not available on the cost of a like intervention for comparison purposes (e.g. the cost of a similar master's degree course in other institutions in-country).

Whilst the organisation is leaner, there still appear to be significant variations in workload in the Secretariat, with some members of staff having excessive (and increasing) responsibilities and others having very light or somewhat nebulous responsibilities.

Some of this results from the transition and 'slotting in' from the previous structure but, in some cases, it may stem from an inadequate recognition of the scope of their role.

Within TDR a number of scientists are performing the role of managers, which is not their inherent skill set. Efficiency might be improved by the appointment of a manager who has overall management responsibility across the two research streams (the nearest comparator would be a chief operating officer role), with scientists giving more time to the technical management of individual pieces of work.

Efficiency is also restricted by the current state of TDR's portfolio management systems, which are operated to the best of the Secretariat's ability but are in urgent need of improvement.

Sustainability

Many of the costs relating to the Secretariat are funded through undesignated funding. It is clear that donors are increasingly finding difficulties in supporting core costs in many other programmes and organisations, even when they can be demonstrated to be lean and show strong performance. Consideration will have to be given to more accurately apportioning the cost support services as an overhead of new initiatives supported by designated funding.

The strengths of the organisation are vested in the competences of current staff. It is foreseeable, however, that there will be some loss of senior staff over the strategic period and consideration therefore needs to be given now to succession planning, through both internal capacity building and external marketing to potential successors.

Equity

TDR Secretariat has set up an internal working group to mainstream gender through all activities. This has been managed within the VES workstream. It would seem that there has been progress both in relation to governance and also to programmatic activities. Examples include those set out in the table below.

Table 4:   Progress on gender equity

Increasing gender parity in TDR committees	STAC and SWGs now have 15 women and 17 men.
Increasing the number of female first authors / PIs:-	Women have been first authors of 47% of the 226 publications produced in 2014.
Supporting the capacity building of women	A call for promoting women in research was launched in June 2014, with 60 eligible proposals received. Nine proposals were funded in 2014. A number of the proposals incorporate mentoring with funding for limited duration.
Communication on equity issues	Communications have featured information about successful women working in research into diseases of poverty.

Career Development for Women in Science in Africa

TDR has supported nine pilot schemes to enhance career opportunities for women scientists working on infectious diseases in Africa.

Higher Institute for Growth in Health Research for Women Researchers (HIGHER Women) in Cameroon has established a national network, a structured mentor/protégé programme, and provided grant writing and proposal development skills training to early career women scientists. It is too early to assess the impact of these initiatives but both follow recognised international methods for supporting women

Capacity building grants have not all been analysed for gender balance but the courses delivered by the RTCs appear to attract a balance of participants. Likewise the new postgraduate grant scheme has the specific goal of attracting women, although the time constraints involved in grants may not be as attractive for candidates with family responsibilities.

Less success seems to have been achieved overall on ensuring a greater focus on francophone and lusophone countries. All three of the universities in the postgraduate grant scheme in Africa are in English-speaking universities. However, the selection of the Institut Pasteur in Tunis as an RTC is a positive move.

Specific research grants have been targeted at women scientists

Impact

TDR has identified a number of areas where it hopes to achieve impact, including the development and implementation of evidence-based policy and building capacity in individuals and institutions to understand and support implementation research. The challenge in the next strategic period will be agreeing metrics which measure this impact in the medium as well as the long term. TDR Global has the potential to support this measurement.

Sustainability

TDR's relevance will ensure that there is ongoing need for an organisation performing the functions of TDR. However, its long-term sustainability will depend on its ability to obtain financial support for both individual workstreams and core functions. This challenge is made more difficult because of some of the constraints arising from the association with WHO (just as there are a range of strategic advantages). This particularly affects the ability of the organisation to flex its staffing, which is a significant proportion of TDR's core expenses.

RCS-KM workstream

Internal Review 2015

The TDR Secretariat commissioned an external evaluation on aspects of the capacity building programme in 2015. The purpose was to review progress on a number of workstreams which had either recommenced or recently been initiated, and to identify lessons and recommendations.

The focus of the review's work was in the following areas:

- the early career grants (master's degrees and PhDs); this included the new postgraduate support programme);
- the postdoctoral grants;
- IMPACT grants (latterly renamed small training grants);
- regional small grants; and
- RTCs.

The findings and recommendations resulting from that internal review are encompassed in this external review under the relevant sections.

Progress on recommendations from the 2011 review

The 2011 review was not based on the three current workstreams which are the result of rationalisation but some issues map across. The 2011 review commented on developing research management capacity and suggested that whilst short courses were valuable for knowledge transfer and networking they were less effective for developing skills in management and leadership. There is widespread recognition that techniques such as reflective practice, action learning, coaching and mentoring have value in developing these skills. TDR has made some progress in offering mentoring (for instance as part of the Career Development for Women in Science in Africa) but it is not widely available. However, there is significant potential through the creation of TDR Global, which provides the opportunity to identify and pair mentors and mentees. It will be important to recognise that the mentor–mentee relationship is long term and is not usually based on remuneration. Paying mentors may, in the long term, make establishing mentoring as an integral part of culture more difficult and this will disadvantage women who particularly benefit from this form of capacity development.

Early career education grants (master's degrees, PhDs)

Since its inception, TDR has strongly supported postgraduate capacity development through grants for master's degrees and PhDs. In the period 1975 to 1996 a total of 1,438 postgraduate training grants were made and TDR allocated as much as 30% of its resources to research capacity development. Between 1997 and 2010 a further 356 postgraduate grants were awarded.

Following the financial issues experienced in 2010–11, these grants ceased and did not become available again until 2013/4. Whilst a small number of grants were awarded, there were significant delays in the grantees commencing their course of study due to

administrative problems and significant issues relating to obtaining ethical approval. Some of this related to the quality of the proposal writing but processing was also impeded by the lack of a unified finance/project management system.

In 2015 the administrative arrangement for awarding early career education grants changed. Instead of applicants applying to TDR Geneva for grants to study in a wide range of institutions worldwide, seven universities were selected through a competitive process to offer these courses of study. The postgraduate grant scheme has the following perceived advantages:

- it supports capacity building in both the individual grantees and the institutions;
- it reduces transaction costs for the Secretariat and delays relating to obtaining ethical approval through WHO; and
- it accelerates the period between application and the commencement of study.

In addition to this change, future support focuses on applicants currently working in national public health programmes and on implementation research relating to infectious diseases. The aim is to build a cadre of public health staff with an understanding of research who have the knowledge and skills to identify suitable topics that would benefit from an implementation research approach, and to support research which addresses bottlenecks to the implementation of proven strategies. Some of these master's students may decide to progress further into academia and research but the majority will return to work in public health fields in their home countries.

This scheme has only just commenced but the predecessor review team were able to visit Gadjah Mada University, Indonesia, and Medellin, Colombia. Their findings can be summarised as follows.

The assessment process identified excellent institutions but some aspects were not considered. These included:

- the challenges of working with grantees from a number of countries in the regions;
- the need to provide supervision in all these countries;
- the administrative difficulties of obtaining permission for field work and ethical approval; and
- the need for dedicated leadership of the programmes.

In addition, the focus on implementation research was new and it was clear that this was not entirely understood by applicants and some staff did not have confidence to teach in the field as yet.

This new way of working is at an early stage and some teething problems are inevitable but the review concluded that there were issues which needed action to be taken.

The current review has examined progress to date across all the universities offering courses:

Table 5:   **Details of early career education grant courses**

University	Course	Start date	Number of students	Additional information
Gadjah Mada University, Indonesia	Master's degree in public health	February 2016	15, from 12 countries	One dropped out for family reasons. Students had two-months induction with effect from December 2015
Zambia	Master's degree	October 2015	5, from 3 countries	
University of Witswatersrand South Africa	Master's degree PhD	January 2016 January 2016	10 selected, 7 started 2	One deferred Two delayed for visas
Ghana	Master's degree PhD	October 2015 January 2016	10 5	
American University of Beirut	Master's degree	August 2015	7 selected 2 dropped out	Inadequacy of stipend for student with family caused one withdrawal
BRAC Bangladesh	Master's degree	January 2016	10	Although one student withdrew, substitution from a waiting list was possible
University of Antiquoia Medellin, Colombia	Master's degree	Recommenced February 2016	15	First call had poor response so course deferred
Total			67 master's degree students 7 PhD students	

A number of lessons have been learnt from the first round of grants. Whilst many of the issues have already been addressed, the following issues will need continuing attention.

The call seeking applicants needs to be sufficiently explicit about the focus of the master's course (implementation research).

Universities need to ensure that they can provide adequate supervision and support, particularly outside the country.

Confidence in the ability to teach implementation research needs to be confirmed.

Timelines for selection and for course delivery need to be realistic given the need for visas, ethical approval, agreement from country ministries of health for field work etc.

In the next strategic period consideration will need to be given to the current strategy of taking students from a range of countries and focusing on funding master's degree courses. There is a risk that it will not be possible to create a critical mass sufficient to support implementation research meaningfully in all of the countries and a focus where the capacity is lacking and the potential for benefit is greatest might be preferable. Consideration of this strategy could be scheduled as part of the overall evaluation of TIPS.

'Capacity building is a big pit which can absorb money. It may be better to fill the potholes on a road which is known to lead in the right direction.'
Partner

Postdoctoral grants

These grants have been supported by TDR over a long period of time but ceased in 2011 due to the financial situation. They are widely held in high esteem as they potentially provide a stepping stone for people to become career researchers. In 2013, a total of nine were allocated, predominantly to African men who were working in established research institutes.

In 2014–5, the scheme was in transition in terms of focus and criteria, and was not part of the predecessor capacity building review.

A postdoctoral training scheme in implementation research has recently been launched at the Noguchi Memorial Institute for Medical Research (NMIMR) at the University of Ghana. This was designed to provide six places for scientists from across Africa. However, the response to the call for proposals has been poor and many applicants did not recognise that the scheme would relate to implementation research and thus were ineligible despite the call documentation being very clear about the implementation research focus.

Whilst the recent focus of TDR has been on providing a body of people with the knowledge and skills to support implementation research at grassroots level, many informants stressed the importance of providing parallel grants to support career researchers, particularly at an early stage after their doctorate. This training scheme would be in line with this focus.

IMPACT grants/ small training grants

These grants were launched in 2013 when they were called IMPACT grants and had a slightly different focus to the current focus, in that they primarily supported research by small teams.

The grants were for training and research in implementation research and knowledge management, such as the 'development of operational tools, approaches for translating research into policy, and observational studies to address pragmatic or operational issues'.(call for proposals) IMPACT was developed to support TDR's new Strategic Plan, which gave emphases to IIR and research capacity strengthening to improve the health of those burdened by infectious diseases of poverty. Twenty-six grants were approved in 2013.

In 2014 a further call for proposals was issued and a further 26 grants were approved. A proportion of these were purely for training and research capacity development, without any

research project. The 2014 call provided four criteria on which the applications would be evaluated, the process of evaluating was made clear and there was more detail about TDR's focus on implementation research as a 'systematic approach to understanding and addressing barriers to effective and quality delivery of health interventions, strategies and policies'. This showed learning from the previous call, which had lacked these criteria.

In 2015 the decision was made to change the nature of IMPACT grants and to call them small training grants, with a focus on research training. This call attracted a very large number of applications.

> The TDR newsletter of December 2015 featured an example of how an IMPACT grant had been used in Ghana to train five multidisciplinary teams in implementation research methodologies, which resulted in them addressing real life issues in their work area, including recurrent outbreaks of cholera and issues relating to prevention of mother to child transmission. The grant also enabled them to leverage additional grant funding to expand training

Small grants with regional offices

TDR has worked with the focal persons in the six regional offices to offer small grants on an annual basis. Each office has been responsible for identifying focal areas for proposals. Grants are for $10,000–$15,000 for a period of 12–18 months and each region has an annual budget of $150,000

It is very clear that this scheme is strongly supported by the regional offices and, although grants are small, they attract many proposals. Some grants are complementary to grants already obtained for a larger initiative. The predecessor review of capacity building identified a number of issues regarding these grants, including:

- some of the focal areas identified in the call for proposals were unrealistic for grants of this magnitude to a single individual;
- the extent of consultation on focal areas varied considerably;
- the criteria against which grants would be assessed were not consistently transparent;
- there was no framework for evaluation and there were no consistent metrics for reporting across all regions; and
- whilst all regions received the same budget for grants, the needs did not seem equal, with some regions having less potential for research into infectious diseases of poverty.

The most recent call by WPRO for 2016–17 is more specific and feasible than previous calls in this region. It has a strong emphasis on capacity building and is clear that it must involve ministry of health staff.

The administration for the Europe region has been contracted on a trial basis to an individual in the University of Astana, which is an RTC. This may be a model which could both reduce transaction costs but also strengthen ties between RTCs and regional offices.

- Consideration might be given to offering fewer but bigger grants, which would make it more realistic to address some of the focal areas identified as priorities.
- The changing nature of the grant to support capacity building should be welcomed.
- The focal areas need to be more consistently realistic in order to reduce the risk of failure to achieve goals.

- An evaluation framework needs to be agreed and implemented.

RTCs

Six RTCs are supported by TDR. They are based in both universities and research institutions and are funded to provide courses to fill gaps in learning for researchers in their region. They aim to work towards a core and satellite model but are at different stages of development and, so far, only the RTCs in Indonesia and Colombia have developed the links for satellite institutions and identified trainers in them to support this model. The centres have been selected in part because they can offer complementary expertise. The RTCs are as follows:

- Centro Internacional de Entrenamiento e Investigaciones Médicas (CIDEIM), Cali, Colombia, with expertise in research project management (Americas region).
- Gadjah Mada University, Yogyakarta, Indonesia, with expertise in social science and implementation research (South-East Asian region).
- Astana Medical University, Astana, Kazakhstan, with expertise in bioethics (European region).
- Research Institute of Tropical Medicine, Manila, Philippines, with expertise in Good clinical practice (GCP) in clinical trials; Good clinical laboratory practice (GCLP); and scientific writing (Western Pacific region).
- The University of Ghana School of Public Health, Accra, Ghana, with expertise in implementation research (African region).
- *Institut Pasteur de Tunis*, Tunis, Tunisia, with expertise in Good health research practice (Eastern Mediterranean Region)

The centres offer courses funded by TDR, including:

- Good research practice
- Effective project planning and evaluation
- Good health research practice
- Good laboratory research practice
- Implementation research (a five day course based on the IR Toolkit)
- Research ethics (currently being piloted by Astana University).

In 2014, 365 trainees attended courses funded by TDR, of whom 43 attended train the trainer courses.

The predecessor internal review, which focused on capacity building, identified the following points:

- RTCs were at very different stages of development. Some had been able to roll out the courses beyond the programme of grants funded by TDR and it seemed that they were becoming independently sustainable using funding from government, self-funders and incorporation in their own master's degree programmes;
- RTCs felt that the courses offered by TDR were much in demand, although some participants attended in order to fulfil accreditation criteria unrelated to implementation bottlenecks or research;

- not all RTCs felt able to offer the full suite of courses developed;
- one RTC had not been able to deliver courses beyond a single two-day pilot;
- despite joint development of courses and participation in train the trainers courses, the content and duration of courses was not standardised across the RTCs;
- development of courses appeared transaction heavy and placed considerable demands on RTC leads. This had the potential to impact on their 'day jobs';
- whilst all the RTCs had been involved in the development of the implementation research course and had staff who had undergone training it was reported that some felt that they still lacked confidence to deliver courses in this new topic;
- communication and transfer of best practice between RTCs was not operating outside of planned meetings;
- although no specific measures had been put in place, courses examined in four of the RTCs appeared to be achieving gender balance. There seemed less progress in engaging francophone researchers although the *Institut Pasteur* had recently been selected as an RTC and should have the capacity to rectify this;
- no formal evaluation framework had yet been developed although the need for this was recognised. Currently monitoring is largely based on attendance figures and participants perception surveys; and
- active management of the courses (including virement) was hampered by annual reporting. It is understood that this has subsequently been revised to six monthly.

Future developments

The RTCs are supporting the development of the MOOC (see section on MOOC, page 82) and there are proposals to widen their role to encompass additional activities, including the access and delivery partnership activities relating to capacity building in Ghana and Indonesia.

There is much goodwill in the institutions acting as RTCs but the core funding was reported to primarily fund administration staff. Care must be taken that senior scientists are not being asked to overcommit to TDR activities to the detriment of their 'day job'.

'We are honoured to work with WHO but there are only so many hours in the day.'
RTC manager

Where courses appear to be sustainable without TDR funding, a planned tapering should be agreed, coupled with the offer of support to develop a business plan encompassing full costs, assessed demand and agreed standards (e.g. participant; facilitator ratios).

RTCs should be encouraged to work more closely with the respective regional and country offices, research institutions in their region and ministries of health to assess need and to mobilise potential participants.

RTCs should be encouraged to communicate across the RTC network outside of formal meetings, in order to share good practices.

TDR should agree a reporting framework which will over time enable outcomes and impact to be identified.

The RTCs vary in their capability and capacity. It is recommended that a review be undertaken, including those regional research partners supported by AHPSR and HRP, to rationalise and focus on the centres with the greatest potential that might support research capacity building with a wider focus.

TDR Career Development Fellowships

The TDR Career Development Fellowship (CDF) is a one-year programme in which scientists from developing countries work with pharmaceutical and research institute partners to learn how to lead clinical drug and vaccine trials. The ultimate goal is to reduce research bottlenecks as more new products enter the development pipeline, and to develop strong research capability in LMICs with infectious diseases. Founded in 1999 to promote high quality clinical research in LMICs, the CDF started out as a partnership between TDR and the Belgium-based GlaxoSmithKline Biologicals, a global vaccine research, development and production company

The programme has grown to 18 partners, including 13 pharmaceutical companies, three product development partnerships and two public research institutions.

Those selected to participate in the programme receive 12 months of on-the-job training in R&D project management, good clinical practice and regulatory requirements before returning to their home institutions. By April 2014 the programme had supported 42 fellows from 19 African countries, with others coming from China, Peru and Vietnam. Many are now leading clinical development projects and helping their countries' institutions increase their research capacity.

An impact assessment conducted by the Swiss Tropical and Public Health Institute, Basel, Switzerland, and the Barcelona Institute for Global Health in 2012–13.identified a number of positive results, as shown in the following table. It is not entirely clear, however, how the gap analysis translated into the number receiving training.

Table 6:   Personal pre-'training gaps' in skills and competencies and training received through the CDF programme

Topic	Lacked training before CDF		Received training during CDF	
Project management	17	81%	20	95%
Trial design	12	57%	17	81%
Clinical pharmacology	11	52%	7	33%
Good clinical practice/ good laboratory practice	10	48%	18	86%
Biostatistics	7	33%	7	33%
Microbiology or molecular biology	6	29%	2	10%
Ethics	4	19%	17	81%
Medicine	1	5%	2	10%

In addition, fellows were able to demonstrate an increased ability to obtain grants and to publish their findings.

The review made a number of recommendations:

- continue and expand the CDF programme;

- develop a reintegration process for the fellows. This recognised the problems of a lack of staff to form teams in home institutions;

- improve the engagement of home institutions; and

- consider opening out the scope of training to include more topics relevant to applied research.

These recommendations have been validated by the interviewees in this review but the point was made by two interviewees that CDFs are more in line with TDR's previous focus on product development and continuation may give the wrong impression about current priority areas. The review team concurs with this view

Access and Delivery Partnership

TDR is working under an inter-agency agreement with the UNDP and PATH on a Japanese-funded initiative called the Access and Delivery Partnership. TDR's role is to support teams in three countries in capacity building in implementation research and in consulting to identify research questions relating to six thematic areas. In Ghana and Indonesia this support will be delivered using the RTCs. The total value of this agreement is approximately $700,000 per annum.

The Access and Delivery Partnership is a good example of TDR working with a co-sponsor to deliver a programme which brings research, public health staff and policy-makers together to support the introduction of new and proven technologies and approaches.

The Implementation Research Toolkit

The Implementation Research Toolkit was developed as part of a collaborative exercise, with support from the US Agency for International Development (USAID)/the President's Emergency Plan for AIDS Relief, by the Implementation Research Platform. This brings together the AHPSR, HRP, WHO's Department of Maternal, Newborn, Child and Adolescent Health, the Partnership for Maternal, Newborn and Child Health, and TDR.

The development of the Toolkit was undertaken in a collaborative exercise, with input from a very large number of individuals. The Toolkit consists of a modular participants' manual and a facilitators' guide. It is written in such a way that it is accessible to a very wide range of potential users.

It recognises that implementation research can be used in work situations to address system bottlenecks. By using a standard approach it is intended to ensure that results can be compared across countries and regions.

With support from TDR a number of individuals have been trained as facilitators in using the Toolkit. The review of TDR capacity building initiatives found, however, that some potential facilitators based in academia (including the RTCs) felt they lacked confidence in delivering courses on implementation research and it seemed that some of this related to their own lack of knowledge and experience working in service delivery settings, in public health or in multidisciplinary teams.

It would seem to be a priority to build on the development of the capacity of institutions in teaching implementation research.

There appear to be opportunities for implementation research courses to be offered with support from the other WHO special programmes and regional centres as well as with other departments in WHO HQ.

MOOC

TDR is developing a MOOC on implementation research. The MOOC builds on previous research training and short courses produced by TDR, particularly the Implementation Research Toolkit, which promote the integration of ethics and good research practices in health research on infectious diseases of poverty.

The MOOC is being developed in partnership with the Swiss Federal Institute of Technology in Lausanne. This institute has considerable experience in developing MOOCs, having provided over 30 MOOCs to Coursera (https://www.coursera.org), a leading provider of free online educational training courses. The technical content for the courses is being contributed by a number of partners within WHO, several international university tropical medicine departments, including from DECs, and representatives from each of the RTCs. Each module of the MOOC has a designated coordinator who is supported by four to seven subject specific experts.

Development of the content began at an initial workshop at the Swiss Federal Institute of Technology in June 2015 and a follow-up workshop was conducted in September 2015. The final course is currently being finalised. By 2017 TDR expects that the MOOC will result in hundreds, if not thousands, of researchers being orientated on implementation research through the MOOC. The MOOC will cost approximately $250,000 to produce and will be hosted at the Swiss Federal Institute of Technology for three years, in the first instance.

While the Implementation Research Toolkit and courses in implementation research, being rolled out through RTC, are valued, it was felt that these training modalities alone would be insufficient to meet demand. This is partly due to the logistical, financial, and time constraints of participants being able to physically attend courses, as well as difficulties in coordinating the Implementation Research Toolkit courses through the RTCs. The online nature of the MOOC therefore presents an opportunity for more participants to take the courses and ultimately better dissemination, access, and uptake of the Implementation Research Toolkit content. Quality control of materials is also facilitated.

Although an economic assessment of the MOOC was not conducted by the review team, the MOOC is also considered by respondents to offer a more cost-efficient modality of providing implementation research training. While some concerns exist over whether the online training can be effectively accessed by researchers in DECs, other similar e-learning providers have demonstrated that this can be done very successfully, e.g. the Global Health Network. Therefore, the assessment of the results that are expected appears appropriate. Documentary evidence shows that good due diligence was afforded to the development of the MOOC.

The MOOC presents opportunities to better build on the work started with the Implementation Research Toolkit and enable more DEC researchers to access guidance

and training on implementation research. Therefore, TDR should continue with this work and consider expanding the use of MOOCs to disseminate other training products, possibly in collaboration with other programmes, including AHPSR and HRP.

Building capacity through research portfolios

Building research capacity in DECs is the prime mandate of the RCS–KM portfolio, but the IIR and VES portfolios also build capacity through the process of supporting research in DECs. In an attempt to ensure that all research explicitly addresses capacity building, development of research capacity is now a key criterion when deciding whether to undertake research projects and fund proposals. This is done during project inception through the portfolio prioritisation process. Further information on VES and IIR capacity building achievements and issues can be found in their respective sections of this report.

Working with other special programmes in capacity building

WHO hosts a number of special programmes and partnerships. Both HRP and the AHPSR have workstreams in building capacity for implementation research and both receive core funding from similar funders to TDR.

There has been a history of some partnership working between the three bodies, including coming together in the Implementation Research Platform which produced the Implementation Research Toolkit.

HRP provides small annual grants to a network of institutions worldwide. There appear to be opportunities to work towards common institutions which would support implementation research capacity building with short-term training modules in implementation research applicable to both programmes. Likewise, HRP does not currently support master's degrees or PhDs but there appears to be the potential to share the courses currently being funded by the postgraduate grant scheme and to work towards harmonised standards for institutions.

The AHPSR works with a network of nodal institutes to support capacity building and facilitate dissemination of information and advocacy for the use of research findings. In some ways, their role is similar to that provided by the EVIPnet teams at country level. The AHPSR has developed capacity building for individuals to help them develop proposals and to support them once they have obtained grants. Some of this work is similar to that provided by the TDR RTCs but the proposal writing workshops would be a valuable addition for sharing between the programmes.

The AHPSR has also developed tools for researchers, including the Health Policy and Systems Research Reader (Gilson 2012), which has some common elements with the Implementation Research Toolkit.

All three programmes have a remit to capacity build in implementation research and the current activities supported by them appear to have a degree of duplication and certainly the potential for sharing and rationalisation. TDR secretariat currently has more staff focusing on capacity building and a larger portfolio of activities, including the most developed programme of training (evidence from external review of AHPSR, Ollier 2014).

Implementation research is a relatively new concept and there are few universities and centres offering courses in this field. Working together it should be possible to develop the capacity and capability of a global network of institutions which can support the development of common elements of implementation research as well as its application in specific health contexts, such as infectious diseases of poverty and reproductive health. The transaction costs of running three separate workstreams in the three organisations could, in the long term, be reduced by the creation of a unit answerable to all three programmes through a single workplan and budget. It would be important to ensure that such a unit had the core competences necessary, including skills in grant management, an understanding of education and learning, institutional standard setting and monitoring as well as implementation research and the specific health disciplines.

It is recommended that consideration be given to moving towards a joint programme of capacity building activities using commonly agreed approaches and a common framework for evaluation. This would build a worldwide community with skills and knowledge of implementation research, in addition to the specialised' sectoral specialisms.

Working with EVIPnet

There would also seem to be opportunities for complementary working with EVIPnet. EVIPnet involves the formation of teams in various countries, which undertake systematic review of research relevant to specific issues. This results in the writing of a brief which is used to facilitate both policy development and policy implementation through the use of the best scientific evidence available. Whilst the 'solution' may be identified and adopted as policy, teams often encounter barriers to implementation and implementation research has the potential to play a valuable part in overcoming these bottlenecks.

Jointly, TDR and EVIPnet could work towards a continuum of support, with individual teams initially working with EVIPnet to acquire knowledge and skills in systematic reviews and then being supported in implementation research methodologies to facilitate implementation.

Measuring capacity building in research

Individual capacity

The 2011 review recognised that, in order to be able to measure capacity building in research, it was necessary to have an agreed competency framework. A recent initiative supported by TDR has the goal of increasing research capacity in LMICs by identifying key competencies within different roles of clinical research teams, and agreeing on minimum training standards. This work was undertaken in collaboration with the Global Health Network, a collaborative network situated in the University of Oxford's Tropical Medicine Department.

The work is still in progress and is subject to review and improvement. The aim is to produce a web version by September 2016 to facilitate this activity, with final publication and dissemination being scheduled for early 2017.

This is an exciting development: 50 core competences have now been identified and a gap assessment has been undertaken to identify which competences can be strengthened by

courses currently available worldwide. Preliminary findings suggest that there is a significant shortage of capacity building in competences broadly related to management.

The framework includes a grading tool that can be used for both individuals and teams. This is valuable both for identification of needs but also for evaluation of capacity building initiatives when undertaken at base line and post-intervention.

Whilst recognising that implementation research requires a team of individuals from a number of disciplines, there would seem to be an argument for considering developing a team competence framework for implementation research. This would not be topic specific and thus could be an exercise that is undertaken across the three programmes (AHPSR, HTP and HRP) that are all supporting implementation research capacity building.

Institutional capacity

It is equally important to be able to measure the impact of institutional capacity building given that TDR is explicitly addressing this alongside delegating individual capacity building work (master's degree, PhDs and RTC functions) to universities and research institutions. This would include standards relating to course development and accreditation, maintaining the quality of teaching, supervision, transparent selection, systems for ethical approval etc.

There is expertise within the RCS-KM SWG which might be utilised to undertake the development of an institutional standard against which universities could be assessed/ assess themselves.

Knowledge management

Background

Currently, TDR has one staff member working on knowledge management. In addition, it has had a consultant working with him on a one-year contract. However, this relates to a specific task concerning establishing the HPRDF. The knowledge management function is located within RCS-KM, for historic reasons.

Nevertheless, it is reported that the knowledge management staff member has worked more with the IIR team than with the RCS-KM team. This is not surprising given the focus of implementation research on ensuring research findings are taken up in practice. In addition, PPM staff are reportedly also engaged in work which constitutes knowledge management.

While it might be more logical for the knowledge management function to be located elsewhere, the staff member is already physically co-located with the communications manager close to the director. He considers these practical arrangements more important and influential than location within the organisational structure. Communications and knowledge management staff work constructively together.

The current arrangements work well because of personal factors but they might not continue to do so if staff change. Consideration might be given to relocating the post to the Director's Office.

Knowledge management – approach and achievements

TDR's approach to knowledge management has two main elements, focused on identifying need before research is conducted and on ensuring the best impact of the evidence generated. The importance and complementarity of these two elements are reportedly not well understood within TDR and among its stakeholders.

Key achievements identified in the area of knowledge management include:

- progress on open access – this included developing a policy and increasing the percentage of published papers available as open access (see below);
- platforms for sharing data – for example on clinical trial data for tuberculosis and leishmaniasis; and
- influencing policy – through a range of activities and initiatives. These activities involve the production of policy briefs and other approaches to inform policy-makers of major research findings.

Publications in peer-reviewed journals

A key part of TDR's approach to knowledge management is to support the publication of research in academic, peer-reviewed journals. This approach includes a built-in element of quality assurance.

TDR's PAF contains a number of indicators related to publications in peer-reviewed journals, including the number of peer-reviewed publications supported by TDR; the percentage published in open access journals; the percentage with a first author from an institution in a DEC; and the percentage with a female first author. Results related to these indicators are published annually.

Figure 8:   Number of peer-reviewed publications supported by TDR: 2008–2014
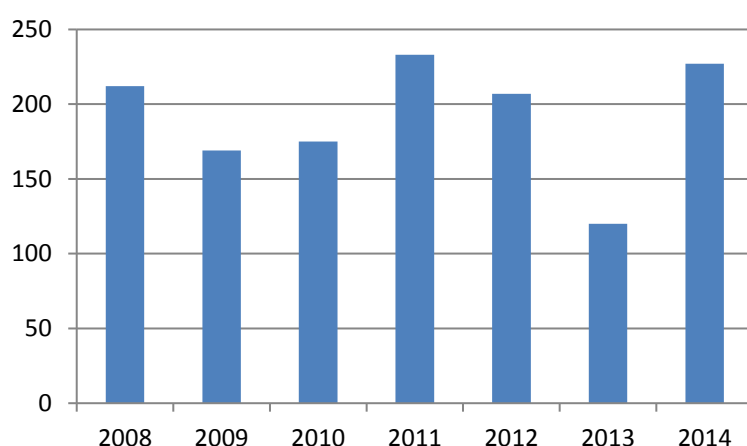
From 2008 to 2014 the number of peer-reviewed publications supported by TDR averaged just under 200 annually (see Figure 8). The lowest figure (120) was in 2013. Although TDR expected publications to remain at this level, this was not what happened in 2014, when one of the highest levels of publications (227) was documented. A key factor in this was the 84 publications arising from SORT-IT. These accounted for more than one-third (37%) of all publications supported by TDR in 2014.

Around two-thirds (67% in 2014) of first authors are from DECs and this proportion remains fairly constant. The number of countries from which first authors are drawn has increased and the 2014 Results Report attributed this change to the effects of SORT-IT. Although TDR has only been monitoring the percentage of female authors since 2013, this proportion was reported to have risen from 41% in 2013 to 47% in 2014. Again, this change was attributed to the effects of SORT-IT in promoting research by female first authors.

Figures for the disease focus of the publications from 2011 to 2013 show significant change. For example, the proportion of articles related to sexually-transmitted infections, including HIV, rose from 2% in 2011 to 18% in 2013.

Open access and intellectual property

TDR has introduced an open access policy. TDR's approach is that universities should charge this fee as a cost to their research funders and then establish a fund to meet these costs. Also, most journals offer waivers if the first author is from a low-income country. Although TDR has offered to discuss such fees on a case by case basis, this has not, as yet, proved necessary or problematic. The proportion of TDR-supported publications in open access journals was reported to be 66% in 2012, 50% in 2013 and 88% in 2014.

Given that TDR is no longer involved in product development, other intellectual property issues are less of an issue than might have been the case otherwise. However, such issues might arise for the HPRDF, if it is established.

Assessing the impact of publications

While it is relatively easy for TDR to track the outputs of its funding, e.g. the number of published papers supported, it is more difficult to assess the impact of such publications and TDR's other activities. One option would be to identify where papers supported by TDR are cited in a country's policy guidelines, e.g. in Uganda. Another option might be to try to study the impact of a specific programme, e.g. SORT-IT.

Challenges

There are a number of challenges relating to knowledge management within TDR, including different understandings of what knowledge management is and the lack of information on individual grants.

- Given TDR's focus on implementation research, it may be worth bringing together TDR's work on communications and knowledge management as '*research uptake*'.
- Any creation of an M&E function needs to recognise the synergy with knowledge management in identifying organisational benefit.
- TDR needs a credible unified finance/ project management system (as outlined in the recommendations of the recent review of TDR's capacity strengthening grant schemes and RTCs). Such a system is essential for effective knowledge management in TDR.
- In-depth case studies (either of countries, e.g. Uganda, or projects, e.g. SORT-IT) are likely to be an effective way of collecting evidence of the impact of published research.

TDR Global

TDR has been developing a database of alumni who received research or training grants from TDR, and /or who served as advisors in TDR external expert committees. This currently has 5,971 beneficiaries of past support registered but only has validated contact information for 2,324 due to availability of valid email contacts. The database has a number of potential uses:

- it may provide some information to track outcome and impact;
- it expands the number of people who regularly receive information, including calls for proposals, news of research undertaken and publications available;
- it proves a search facility by geographic location and specialist knowledge, skills and experience, giving the database the potential to be a resource for mentoring, peer review or supervision; and
- it has significant potential in regard to measuring benefit.

It can be argued that TDR Global is an initiative for communication, M&E and knowledge management, although responsibility for different aspects is not wholly clear. The information that will be collected is not exhaustive, as some of the grantees have not been entered in the current grant management system (TIMS). If this were done, it would support the knowledge management function and provide a further indicator for output or impact.

Whilst this initiative is clearly valuable it might be a tool to be used more strategically.

Consideration might be given to the further development of the database to support a community of individuals who have an interest, and expertise, in implementation research. This might be wider than merely being those with knowledge of its application in diseases of poverty. There would seem to be opportunities to support this community, either separately, with TDR working alone, or with HRP and the AHPSR, or in conjunction with organisations such as Health Systems Global (HSG). Ultimately, it could be envisaged that this community might benefit from dedicated knowledge resources (including perhaps a journal) a common website and newsfeed, and regular learning/ dissemination/ networking events, perhaps regionally. HSG is a membership organisation and this model would seem appropriate for the whole implementation research community.

Performance of RCS-KM workstream against OECD/ DAC criteria

Relevance

The work being undertaken is relevant in that it is increasingly focusing on implementation research, which is a key priority in order to transition proven approaches into policy and implementation. The move to increasingly provide grants for training rather than individual research is also appropriate given the lack of implementation research competences identified.

The courses offered by the RTCs are much in demand, although this is sometimes for purposes other than interventional research (e.g. professional accreditation of people working in clinical laboratories) and this must de facto suggest relevance to the individuals – but not necessarily for the intended purpose.

Capacity building of institutions is relevant in moving towards sustainability as a provider of courses supporting implementation research, as has been demonstrated at Gadjah Mada University.

Effectiveness

Very little substantive funding in capacity building was available from TDR before 2013 and several schemes have been changed since, in the light of experience. The focus has shifted from funding small-scale research to providing institutional and individual capacity development. It is too early to identify outcomes but, in general, outputs have met expectations. TDR has identified and mobilised six RTCs and five of these are delivering a range of courses. However, there are substantial differences between the RTCs and there is not yet standardisation of course content.

TDR is a relatively small funder and although it is delivering its capacity building programmes reasonably effectively it is unlikely that a small number of staff with a master's degree in implementation research will be able to achieve big changes in either attitudes to tackling bottlenecks or actually undertaking in implementation research. The MOOC will increase the numbers of beneficiaries with some training or orientation in implementation research.

Efficiency

There seem to be significant differences in workload within the workstream, with some staff under-utilised. This provides opportunities for initiatives in the next strategic period.

There have been substantial delays in processing applications, in part the result of a lack of an integrated grants management system and in part due to delays in obtaining ethical approval. The postgraduate grant scheme is designed to overcome some of these problems but is still at an early stage of development, with there being a need to address lessons learnt from the first call for applicants

Impact

It is too early to assess the impact of the workstream. However, a number of interviewees raised concerns that training public health staff from a very wide number of countries globally was unlikely to develop the sustainable capacity needed and the body of researchers necessary. It was suggested that TDR needed to prioritise, and focus on, where implementation was particularly difficult and capacity had been assessed as weak. This might be geographical or by disease programme.

Sustainability

A visit to Gadjah Mada University (an RTC) as part of the predecessor external evaluation of capacity building activities identified that the courses being delivered were capable of becoming self-sustaining. The review recommended support to the development of a business plan and tapering funding from TDR. This is a major success and should be capable of replication in the other RTCs over time.

Quality of capacity building

The review was unable to make definitive judgements on the quality of capacity building. However, it was evident that there were significant variations in staff–student ratios, length of courses and materials/ methods used between RTCs. There was no common evaluation of outcomes, with no common knowledge standard to be achieved.

Whilst all RTCs and universities in the postgraduate grant scheme visited during the previous capacity building review had received training in adult learning and participatory approaches there was some evidence of didactic delivery in at least one location.

VES workstream

Strategy

The Vectors, Environment and Society (VES) unit was created in 2011-2012 to 'address complex interactions influencing disease transmission and control, through integrated, multidisciplinary, ecosystem- and community-based research'.

Initially, the VES unit was designed to absorb and bring together the work being conducted by the 'Innovative vector control interventions' and 'Integrated community-based interventions' business lines (BL5 and BL6). This was in an effort to undertake necessary rationalisation of business lines and staff, as suggested by the 2011 review. No projects under the previous business lines were terminated or transitioned to partners. As a result, the VES strategy and objectives were largely defined by the projects currently being implemented or planned under the previously mentioned business lines. These reforms therefore represented a consolidation of projects under one coherent workstream, rather than a fundamental reform in strategy. However, they did effectively support TDR's transition to a new, 'leaner' approach.

Through 2013 the objectives and outputs of the VES unit remained unchanged. However, VES developed objectives for the 2014–2015 period. Importantly, these future objectives represented a shift from a strategy determined by previous commitments towards a coherent portfolio of research that focused more on implementation research and bio-social-environmental dimensions of disease and control. The 36th STAC report applauded these efforts.

In 2014, based on advice from their SWG, VES restructured their portfolio under expected results that directly related to the 2014–2015 objectives. This was done in an effort to package VES's cross-cutting and inter-disciplinary work more coherently, and communicate the VES remit and goals more clearly.

These strategic changes were particularly important because they coincided with the completion of several projects, some of which were focusing more on R&D than delivery and access to interventions (e.g. Glossina genome data generation). This meant that the VES unit was able to better focus its activities on its new mandate, without terminating any projects due to strategic misalignment. It also allowed the inclusion of a set of work on social entrepreneurship for the prevention and control of infectious disease of poverty, without greatly increasing the number of projects within the portfolio.

In 2015 the VES portfolio underwent further restructuring, based on advice given in 2014 by the JCB, STAC, VES SWG, WHO partners, and the regional offices. These changes re-grouped the VES projects under the following four workstreams: environmental changes; emerging challenges; social and community dynamics; and gender equity. This was done to better align the VES portfolio to the SDGs and to accommodate TDR's recent focus on improving the careers of women research scientists in infectious diseases of poverty, and on a stronger focus on gender equity within research.

A revised impact goal and the cross-cutting activities employed to achieve this goal were more clearly articulated in the February 2015 SWG report (see Box 3). However, there are still no specific objectives for the four new workstreams or reference to how they will help

support the VES goal. The previous expected results are used as proxies for objectives, but these are project-specific aims rather than long-term strategic objectives. The SWG has advised developing longer term strategic objectives to help prioritise activities and it is understood that this will be done in line with the development of the next strategy for 2018-23.

Box 3:   VES overall goal and activities (SWG report February 2015)

GOAL: Communities have enhanced access to improved control interventions that ultimately contribute to decreased transmission and disease burden.

ACTIVITIES:

Promote research for a better understanding of the complex interactions influencing vector-borne disease transmission and control.

Build capacity in under-resourced countries to conduct this research.

Collaborate with countries and institutions; support the work done in these countries, by local scientists and communities.

Progress towards goal

Respondents all reported that VES had worked very effectively in transitioning from R&D-orientated portfolios, to one focusing on implementation research and delivery and access to interventions. The STAC and SWG also consider the VES strategy to be well aligned to, and in support, of the overall TDR strategy.

Although VES's strategic alignment was partly serendipitous, since many pre-existing or planned projects were already strategically relevant and coherent, VES leveraged these opportunities to its advantage and has cleverly packaged an inherited portfolio of projects. It has also gradually stopped working in areas that were less aligned with current strategy.

VES was also proactive in anticipating changes in global health agendas and was therefore able to remain highly relevant in the face of a changing policy landscape. The recent outbreaks of Ebola and Zika virus have further reinforced the need for research that is being addressed by VES. VES's inclusion of scientific and technical working groups and partners in strategy development and attention to due diligence during this process was applauded.

The VES portfolio has developed a relevant and effective strategy for organising its work that complements overall TDR strategy well. However, there is a need to develop strategic objectives for each of the four workstreams, outlining how they will support VES's overall goal and long-term aims. This will help transition the portfolio from being project outcome-orientated to strategic outcome-orientated.

Managing the workstream

VES has five staff (4.5 FTE): one team leader, two scientists, and 1.5 administrative assistants working part time. As such, it is the smallest technical portfolio in TDR. The team leader joined VES in September 2014, when the portfolio was two years old. The other technical team members had been working for TDR since 2007 and 2000, and were reassigned to the VES workstream from other portfolios after the 2011 reforms. Nevertheless, the technical team were considered by external respondents to have a

complementary mix of skills and were all considered highly experienced, dedicated and competent. Despite the team leader being relatively new and having no previous experience of working within UN systems, she was currently considered to be effective in managing the workstream, in part due to support from other team members.

The workstream operates by each technical team member taking responsibility for a number of projects and managing them fairly autonomously on a day-day basis. However, budgets, expenditure, and project progress are subject to monthly review and approval by the team leader. Budgets and expenditures are then coordinated with TDR's administration and PPM, which means multiple checks are in place.

Respondents, including STAC, SWGs, funders and partners, were now happy with VES's progress and reported no major problems with the project or financial management of the workstream. Although some projects had been delayed, and this has slowed expenditure in 2014, this was mostly due to problems with ethical review and international research agreements that were considered understandable due to the complexity of the projects and the fact that VES had to start several new projects at once.

The only area of concern from the STAC, SWG, and external respondents was that the VES team was very small and therefore had limited capacity. While the current team were managing well, taking on further work could result in staff being stretched too thin and being unable to maintain quality standards. The VES team agreed that they were always working at maximum capacity and this made it difficult for them to be responsive to opportunities and changing demands

The VES team appear to operate well as a team and complement each other's skills, experience and work styles well.

The portfolio is managed appropriately, with functional financial and project management systems in place. The current division of labour is appropriate, with each team member taking a personal lead in their specific area of expertise, but with oversight from the team leader.

However, the size of the VES team reduces the scope of work that can be conducted while maintaining quality standards. Accordingly, TDR may like to consider expanding the number of technical staff in VES, but only if the financial situation allows. An alternative solution proposed by the SWG (February 2015) was that SWG members could provide advice to VES on particular projects. It is not clear if this has been implemented yet but it could help mitigate capacity constraints without greater financial investment by TDR.

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Funding the workstream

Although funding in the VES field is considered to be 'as good as it has ever been', VES is not considered to be particularly well funded. This is especially true for cross-cutting research because funding is still largely siloed into particular diseases or themes.

> *'Inter-sectoral work is blessed by everyone and funded by no-one.'*
> WHO Disease Control Department – Scientist

An existing funder of VES also warned that they now had less money and autonomy to fund who they wanted and that this could have an impact on VES. Furthermore, while they were very happy with VES and wanted to continue working with them, they felt that WHO administration and procedures applied to TDR make it more difficult to fund than other organisations.

Nevertheless, respondents emphasised that VES should continue to work in the area of eco-bio-social determinants of health, and if VES were to articulate the value of its work to donors it should be able to find funding. However, this would require a proactive fundraising strategy, with careful positioning and negotiation.

In the 2014–2015 biennium VES was heavily funded through designated funds. However, the conservative 2016–2017 biennium budget shows a reverse scenario, with VES being heavily reliant on TDR undesignated funds, due in part to all new projects being funded through undesignated funding or TDR's SDF. These undesignated funds were viewed as important by VES because they enabled the portfolio to be led by VES strategy and address TDR core issues (e.g. gender equity). SDF was particularly valued because it provided seed funding to make ideas operational which could attract further investment.

However, this places most responsibility for fundraising on the resource mobilisation function centrally, and if this funding was reduced it would impact negatively on VES projects and sustainability. Accordingly, the VES SWG emphasised the need to have exit strategies and plans for transitioning from undesignated funding and SDF funds to designated funds. The importance of this for continuity of funding is emphasised by the fact that three projects in 2013 had to be cancelled due to lack of funding.

VES's reliance on undesignated funds is concerning. The VES team need to be more proactive in raising designated funds. This will require dedicating time for fundraising and developing an innovative and compelling funding strategy to 'sell' VES's inter-disciplinary approach to donors. VES also need to make plans for transitioning strategic development funds to designated funds.

Supporting research

Overall, the VES research portfolio represents an effective transition from a portfolio of inherited projects to a programme of activities that are coherent with the current VES and TDR implementation research focus. This transition took place without any terminations of research, by completing existing projects and ensuring new projects were aligned with current strategy. The current projects for the four workstreams are presented in Figure 9 below.

Figure 9:   VES ongoing and new projects organised by the four new work areas

Source: Report of the Scientific Working Group Meeting on VES, 14 October 2015

Overall, the current portfolio of work is considered by all respondents to be innovative and cutting edge, and to represent a particularly strong niche for TDR to occupy. Research involving multidisciplinary social science teams was considered particularly valuable, with experts in this area considering it to be very important but under-funded and hard to practically implement. Therefore, TDR leadership in this area could be particularly powerful.

The research initiative on increasing resilience to vector-borne disease under climate change conditions in Africa was repeatedly cited by external respondents as an excellent example of eco-bio-social research that had important public health implications. It was also seen as a model project for how TDR should interact with international and local partners, and use its convening power and neutral position to coordinate research efforts and ensure alignment with local policies and priorities. A brief summary of this project is shown in Box 4.

Box 4: **Research project on 'Population health vulnerabilities to vector-borne diseases: increasing resilience under climate change conditions in Africa' (VES Annual Report 2014)**

This four-year research initiative is being implemented by TDR in collaboration with IDRC, the WHO Public Health and Environment (PHE) Department and the WHO Regional Office for Africa (AFRO) AFRO Programme for the Protection of Human Environment. The research initiative provides a holistic research perspective to elucidate how environmental and socio-economic change affects transmission dynamics and the disease burden of vector-borne diseases through changes in vector ecology, human ecology, social organisation, demography and health systems. Implementation of this research initiative is through five research projects in seven countries (Côte d'Ivoire, Kenya, South Africa, Tanzania, Botswana, Mauritania and Zimbabwe) that are focused on major vector-borne diseases (malaria, schistosomiasis, human African trypanosomiasis and Rift Valley fever).

The relevance and importance of the new VES projects were recognised by the STAC and SWG. However, there were some concerns related to the emerging challenges workstream. The SWG noted that while the projects on 'building a regional vector control network in the Caribbean' and 'an online platform for distance learning in vector-borne diseases' were important, their long-term support was outside the VES mandate. Therefore, a clear exit strategy was needed. However, the project on residual malaria was regarded by several external respondents as addressing a critical gap and complements the current VES strategy well, due to its entomological, social and climatic focus and partnership with AFRO and WHO disease control partners.

Respondents and the VES SWG emphasised that VES should continue with its recent trend of acting as a facilitator/catalyst of research rather than undertaking research itself. This is because VES is in a strong and unique position to coordinate research and ensure it is aligned with policy. Directly undertaking research itself could undermine this neutral leadership role by causing it to compete with grantees. Respondents also cautioned that VES should not return to TDR's previous focus on basic R&D as this was now a crowded field in which TDR would not have a competitive advantage.

The VES research portfolio is relevant, aligned with the VES and TDR strategy, and addresses important research needs. VES should begin consolidating its position as a leading convener and facilitator of VES research, which is reportedly needed because current efforts are uncoordinated. To avoid undermining this, VES should not undertake research directly and should not conduct basic R&D.

Ensuring the quality of VES's research

VES uses the system described in the operational systems and processes section (page 39) and it appears to operate satisfactorily. VES experiences the same problems in finding reviewers as other workstreams.

All respondents considered VES's quality assurance processes to be robust, fit for purpose, and supporting the conduct of quality research as much as possible. The only exception to this were the difficulties grantees faced in turning research proposals into scientifically and ethically sound research protocols. This is dealt with in greater detail in the section on ethical review.

All respondents were impressed by the quality of VES's research, some considering it to be adequate, but mostly good or excellent. They also viewed VES, and TDR more generally,

as a boundary institution that effectively bridged research and policy and was therefore well positioned to promote uptake of findings. For this reason, respondents stated that disseminating research for policy and getting evidence translated into practice was a more important quality measure for TDR than producing academic publications. The SWG and STAC are in agreement and suggested VES continue to strengthen efforts at translating research into practice by working with governments and disease control partners in DECs.

Three projects that were regularly cited as being of excellent quality, being effective at influencing policy or changing practice, and establishing TDR as leaders in the field were:

- Population health vulnerabilities to vector-borne diseases: increasing resilience under climate change conditions in Africa (shown in Box 4 above);
- Community-based vectors control of dengue and Chagas disease in Latin America (shown in Box 5 below); and
- Integrated Community Case Management (iCCM) strategy for malaria and pneumonia (shown in Box 6 below).

Box 5:   iCCM strategy for malaria and pneumonia

This research initiative, formed in collaboration with IDRC, consists of three randomised control trials (RCTs) in Burkina Faso, Ghana and Uganda, carried out since 2008 in close cooperation with the global effort on iCCM led by WHO's Global Malaria Programme and UNICEF. These studies have demonstrated the effectiveness and feasibility of iCCM in reducing mortality in children under five. The research evidence has been widely published in high impact journals, featured in a major evidence review symposium on iCCM led by UNICEF and contributed to WHO's T3: test, treat, track initiative.

Box 6:   Community-based vectors control of dengue and Chagas disease in Latin America

This was a five-year research and capacity building programme involving eight research studies carried out between 2008 and 2013 in seven countries in Latin America (Bolivia, Brazil, Colombia, Ecuador, Guatemala, Mexico, Uruguay). Multi-disciplinary research groups from seven leading Latin American research institutions participated in the effort, forming a Community-of-Practice for eco-health research on vector-borne diseases, with a focus on dengue in urban and peri-urban areas and on Chagas disease in rural settings.

The eco-system interventions in the five dengue study sites significantly reduce dengue vector densities compared to the routine programmes, notably in Mexico, Colombia and Brazil but also in Uruguay and Ecuador. The Chagas disease portfolio showed that an eco-health approach can in fact improve and innovate traditional Chagas disease interventions based on insecticide spraying.

Policy-makers and practitioners were active parts of the research initiative and committed to scaling up the interventions at city levels. A cross-disciplinary research framework for eco-bio-social studies and a toolkit has been developed, published, and applied in Latin America, and the research findings were published in a special issue of *Transactions of the Royal Society for Tropical Medicine and Hygiene*.

A review of research outputs listed in the Annual Results Reports for the 2012–2013 and 2014–2015 biennia shows that all completed VES projects resulted in publication, dissemination for policy purposes, or adoption into policy. However, it was not possible to determine the exact numbers achieved by VES because these outputs were not clearly reported or disaggregated.

VES has robust quality assurance procedures and produces good quality research. This could be further strengthened by providing more support for grantees in turning grant proposals into ethically and scientifically sound research protocols. However, this applies to TDR more widely and is dealt with in greater detail in the ethical review section.

VES's research is effective at producing peer-reviewed publications, policy documents and influencing policy. Moving forward, VES should place greater emphasis on getting research findings into practice than on producing academic publications. VES should build on recent successes by increasingly working with governments and disease control partners in DECs.

VES should also adjust the format of the Annual Results Report to explicitly present the number of publications and policy documents produced, and policies influenced. Currently this is only done at the aggregate level for TDR in the annual report.

Building capacity through research

Although research capacity building is explicitly considered when evaluating VES project proposals for funding and implementation, VES does not have a clear capacity building strategy. While capacity building activities as part of VES's larger researcher programmes are able to consolidate gains through their long-term thematic and geographical focus, smaller efforts may run the risk of becoming fragmented. The chance of capacity development activities becoming piecemeal is further increased because VES does not collaborate regularly with the RCS–KM portfolio, reportedly due to the technical portfolios operating very independently. This has recently been addressed to some extent through the TDR-wide approach to strengthening the role of women in science, but this should be expanded to other common capacity development concerns.

Nonetheless, external respondents believe that VES is dedicated to sustainably developing research capacity and the STAC and SWG regard the work undertaken to be effective and important.

Key achievements include:

- the TDR-IDRC research Initiative on Climate Change has resulted in: 49 students being registered for either master's degree, doctorate degree, or post-doctorate fellowship programmes; researchers from DECs being involved and named authors on several publications; revitalisation and active stakeholder engagement through the knowledge sharing platform, VBD-environment.org; web-based training materials and tools for accessing and analysing relevant climate change an environmental data through the Climate and Health Map and National Aeronautics and Space Administration (NASA) SERVIR platform; annual capacity building workshops and technical support for implementers, including training in gender-based analysis; and additional capacity building for communities and ethics bodies;
- TDR–IDRC research into community-based vectors control of dengue and Chagas disease in Latin America has developed a community of practice for eco-health research on vector-borne diseases, and resulted in several publications, which includes DEC authors.

Moving forward, VES have a number of new projects that have the potential to increase research capacity in DECs. These include:

- developing a network on emerging vector-borne diseases in the Caribbean region, which includes two workshops on surveillance systems and diagnostics facilities, and vector control and research. These will be held in collaboration with the Pan-American Health Organization (PAHO) regional office and a consortium of Caribbean institutions led by the Caribbean Public Health Agency;
- reviewing available distance learning courses on vectors and vector-borne disease for DECs, and consolidating and harmonising these courses through the establishment of an online platform that will give these courses greater visibility and access;
- supporting women scientists by undertaking a call for proposals and funding nine projects in Africa that test a concept to address some of the challenges women face in establishing and maintaining careers in health research. Project reports will be compiled as case studies and will profile leading women scientists in Africa. TDR has also created a dedicated website to provide further information on this work; and
- in collaboration with the RCS–KM portfolio and WHO PHE, VES have solicited expressions of interest from the RTCs to develop a training course for capacity building on gender-based analysis in vector-borne disease research. The goal of this is to promote and incorporate gender awareness and sensitivity into vector intervention and control programmes. The course is currently being developed by the University of Ghana.

However, currently it is difficult to get a full understanding of portfolio capacity building achievements because these are not clearly and systematically recorded in annual reports and are not disaggregated by portfolio in the TDR annual report. This not only results in a possible under-estimation of achievements but also prevents the SWGs and STAC from properly appraising capacity building activities.

The VES portfolio is appropriately dedicated to building research capacity in DECs and has had significant achievements. However:

- VES should develop a capacity development strategy. This should include a clear definition of what VES mean by capacity development, as requested by the SWG;

- VES needs to record and present capacity building achievements more systematically in their annual exports. This will help enable the SWG and STAC to appraise and track progress, improve alignment with strategy, and more clearly demonstrate successes to partners and funders; and

- to better leverage TDR's capacity building investments and expertise, there needs to be improved communication and coordination between the portfolios in order to break down current silos. VES should work with the RCS-KM portfolio when developing its capacity building strategy and reporting framework.

Additional activities

In addition to the aforementioned activities, VES team members are taking the lead in the TDR-wide initiative to promote women in science. They also participate in GMP, Neglected

Tropical Diseases (NTDs), Ethics and other WHO expert committees, including the WHO response to Zika virus.

Working in partnership

Overall, VES has leveraged opportunities for synergy effectively and has worked well with other partners in the field. Current collaborations and working relationships involve: WHO departments, including GMP, NTDs, PHE, and HRP; AFRO and PAHO regional offices; other international organisations, including UNICEF, the EU, IDRC and the Caribbean Public Health Agency; and various universities in high-income countries and DECs. The collaboration with UNICEF on integrated community case management research is particularly notable because it involves working with a co-sponsor. Likewise, the strong working relationships with PAHO and AFRO demonstrate good project-specific-collaboration with the regional offices where VES undertakes most of its work.

This suggests that VES's formal engagement approaches (reciprocal invitation and attendance at meetings) and informal networking with partners are appropriate. These findings are supported by the VES SWG who commended VES on their interaction with WHO departments.

WHO disease control departments considered the work conducted by VES to be of great value to them and that working relationships were good. GMP was particularly complimentary of VES's collaborative approach to their work on the integrated community case management of childhood diseases, in which a TDR staff member was embedded in GMP. While this was no longer the case, the working relationship between technical officers was thought to be good. PHE were also very pleased with their working relationship with VES, considering VES to be very open and proactive in developing partnership with PHE as well as policy-makers and partners in DECs.

However, there was also a feeling from WHO programmes that this complementarity was not currently being exploited to its full potential. This was not a fault of VES, but rather insufficient communication among WHO partners, and the fact that opportunities for collaboration could only be realised when appropriate funding was found.

Outside of WHO, VES has a long-standing and effective relationship with IDRC, with whom it has collaborated on several projects. IDRC was highly complimentary of VES' work and how it had worked with IDRC, viewing VES as a preferred go-to partner for eco-bio-social health research.

> VES is effective at working with other bodies in the VES field. Moving forward, VES should continue to develop communication channels with WHO departments and to actively identify funding opportunities that would enable collaboration.

Performance of VES against OECD/ DAC criteria

Relevance

The VES strategy is highly relevant to current health agendas and is well aligned with overall TDR strategy. Developing longer term strategic objectives for each workstream would further improve this

VES-supported research complements the strategy well, demonstrating an effective transition from R&D to implementation research. VES is now in a position to establish itself as a leader and convener in this field.

Capacity building activities support VES's and TDR's mission and values and fill important capacity gaps. However, a more strategic, systematic, and TDR-wide approach to undertaking and reporting this work is needed.

VES works well with other bodies in the field. This ensures that its activities are synergistic rather than duplicative.

Effectiveness

VES is effective in its research, capacity building, and partnership efforts.

The portfolio has made several notable research achievements in a relatively short period of time, delivered high quality work, and produced a large number of publications, reports, and policy documents.

It has also built significant research capacity that supports TDR work as well as DEC research efforts.

Good working relationships with other bodies have supported VES's work well by leveraging global expertise.

Efficiency

VES manages its activities well and has appropriate procedures in place. However, more attention needs to be paid to reporting and tracking capacity building achievements. Although there were some delays with project implementation, these can be attributed to the new portfolio having to start several administratively burdensome projects at once. UN systems were also seen to hamper the efficiency of the portfolio.

Respondents considered VES to be efficient and to offer good value for money considering the high quality of its research. The small team ensures economy, but this also restricts the scope of work that can be undertaken without compromising the quality of outputs. It also limits the ability to respond to opportunities.

Running at full capacity may explain the recent decline in designated funding. Regardless, the VES team need to dedicate more time to securing future funding from sources outside of TDR.

Impact

Given the relatively nascent nature of the VES portfolio, respondents and the review team consider it to be too early to expect and to evaluate impacts.

Nevertheless, VES has made significant and important progress in several of its expected results, and has already achieved some of them. Importantly, VES has effectively engaged with decision-makers and practitioners, which has resulted in policy changes and expansion of disease control activities that are likely to contribute to decreased transmission and disease burden.

It is difficult to determine whether VES's capacity building activities have had an impact due to the long timeline expected and TDR's reporting and tracking procedures. However, based on current reports, some long-term impact can reasonably be expected.

Sustainability

VES's combined approach of conducting high quality and relevant research, associated capacity building, inclusion of DEC policy-makers and practitioners, and effective partnerships to tackle vector-borne diseases has already resulted in sustainable improvements in disease control. If it continues with this approach, it is reasonable to expect further sustainable achievements from the VES portfolio.

However, VES's current dependence on TDR core funds is a threat to the sustainability of the portfolio; if these funds diminish, so will VES's activities. Therefore, VES need to diversity funding by securing designated funds from other donors.

Quality of science

There are appropriate quality assurance and due diligence mechanisms in place to ensure that VES's research is independent and rigorous, the research it conducts is relevant and high quality, and projects are managed effectively. This has resulted in relevant and high quality research, as evidenced by external respondents' views, many peer-reviewed publications and the translation of findings into policy and practice.

The small number of staff in the VES portfolio is a threat to the maintenance of these quality standards. However, this can be mitigated to some extent by more effectively utilising the skills and expertise offered by the SWGs.

IIR workstream

Strategy

TDR's Strategic Plan for 2012 to 2017 (p.9) identifies IIR as one of two main programmes of activity for TDR in this period. In general, respondents considered that this approach was addressing an important gap, although a small number of respondents commented that this was an area in which many other organisations were already working. Opinions were mixed as to whether a focus on IIR should remain the organisation's main strategic approach. Most respondents considered that TDR should remain focused on IIR and not return to product R&D. One commented, for example, that the biggest gains may not be with new drugs but with making the most of known medicines. However, there were some respondents who considered that the focus on IIR was simply a temporary, pragmatic response to having limited funding available for TDR, that the biggest gap still remains product R&D and that this is an area TDR could return to if funding was available. Within this group, there are those who consider that TDR's current work on IIR is only possible because of the previous extensive work done by the organisation on product development. They are concerned that without ongoing investment in product R&D, future IIR by TDR and others may not be possible (see Box 7). The counter-argument to this is that there are now many actors in product R&D but there are fewer looking at implementation challenges.

Box 7: Examples of product R&D work supported previously by TDR, which is allowing IIR to be conducted currently by TDR and others

Many areas of IIR being supported by TDR relate to pharmaceutical products which TDR supported earlier in the R&D phase. These include:

- moxidectin for onchocerciasis – TDR is currently providing technical advice to the Australian not-for-profit organisation Medicine Development for Global Health to take forward the registration of this medicine;
- antimalarial combination therapy (ACT); and
- the use of rectal artesunate in the treatment of severe malaria.

A key issue for TDR is how specific issues and areas requiring IIR are identified and prioritised. TDR's IIR team emphasise that they have been working more closely with relevant countries to respond to their identified challenges, needs and gaps. Examples include work on outbreak preparedness for dengue; SORT-IT operational research and training; and the West African Regional Network for TB control (WARN-TB). In addition, the recent major outbreak of Ebola in West Africa served as a reminder of the important threat still posed by infectious diseases as there had been a tendency to assume that these had been dealt with and that the main areas of need and gap faced by low-income countries now related to non-communicable disease.

Nevertheless, some respondents questioned whether the activities and projects selected for IIR were necessarily the best available, e.g. to address the SDGs. One respondent commented that because a significant and potentially increasing proportion of TDR's financing comes as designated funding, it could be argued that it is primarily donor needs and agendas that are being addressed. Another commented that TDR's IIR team are still primarily supporting research that is of interest to them (see Box 8, below.)

Shifting from pharmaceutical product R&D to IIR

While there is consensus among respondents that TDR has shifted away from pharmaceutical product R&D, views are more mixed as to whether or not the organisation has shifted effectively to IIR. The key issue here is that there is no shared understanding of what precisely is meant by IIR, either within TDR or more broadly. Consequently, different respondents may be using different definitions and understandings when assessing the extent to which TDR has shifted to IIR (see Box 8).

Box 8: What precisely does TDR mean by IIR?

TDR's Strategic Plan 2012 to 2017 defines intervention research as '*developing and evaluating methods, tools and strategies for effective treatment and control of disease*' and implementation and operational research as '*optimising the translation of innovation to health impact in disease endemic countries'.* However, these definitions do not appear to be particularly clear nor do they seem to have gained acceptance within TDR or more broadly.

One issue is whether the term IIR covers all of TDR's research, including on VES, as implied in the Strategic Plan, or whether the term IIR only applies to the TDR workstream previously referred to as '*biomedical*'. The issue here is that the term VES is focused on particular thematic areas while the term IIR is focused more on the style and approach of the research carried out. One way of addressing this might be to seek to identify the scope of the thematic areas to be covered by TDR's IIR, e.g. as has been done by the IIR SWG.

TDR's IIR team interpret the term fairly narrowly, focusing their efforts on biomedical intervention and implementation research. One IIR staff member commented that intervention research is the "*efficacy and other studies which lead to a tool being adopted/endorsed/recommended by WHO*". By implementation research the team means "research *that ensures interventions are applied effectively, efficiently and appropriately for maximum effect*".   While TDR's IIR team are no longer permitted to do product R&D, they are allowed to test new tools and the deployment of new interventions. In their view, intervention research, in relation to drugs, is focused on ensuring interventions are taken up by policy and recommended by WHO. TDR can be involved in such work but not as sponsors with legal and financial responsibilities. Implementation research is then focused on interventions being adopted by countries and scaled-up. It can cover issues such as how to reach the poorest. TDR's IIR team report that one of their key successes has been managing the transition they have undergone, which required phasing out product R&D. In their view, they have done this '*without throwing out the baby with the bathwater'.* Nevertheless, they acknowledge that they could show more clearly that they are doing more and more implementation research. This means that, in their view, there might not need to be a fundamental change in what they do but perhaps greater clarity in regard to how it is presented and explained.

In contrast, other respondents would like to see the term interpreted more broadly, with a shift away from a focus on pharmaceutical products and a much stronger and more explicit focus on getting evidence and the results of research into policy and practice. People within this group interpret the current focus of TDR's IIR team as demonstrating a poor understanding of the concepts of IIR. There are also concerns that TDR's IIR team are '*doing what interests them'.*

There is a great deal of literature on this topic (e.g. Fixsen *et al.*, 2005; Bhattacharyya *et al.*, 2009; Remme *et al.*, 2010; and Peters *et al.,* 2013a/b). Not all of this is particularly helpful for TDR. For example, the paper on defining research to improve health systems (Remme *et al.*, 2010) distinguishes between implementation and operational research while TDR's strategic plan sees these as largely interchangeable. There is considerable frustration among some over this issue, with one senior staff member stating: '*no-one has the answers to these debates. Books have been written. Meetings have been held but there is no answer. Personally, I don't care what we call it!'*

While there is understandable reluctance within TDR about seeking to try to define terms (such as implementation research) in what is clearly a contested and controversial field, it may be important for TDR to explain what it means by the term IIR, and the scope of the work it will and will not conduct in this area. This is needed for practical clarity in terms of guiding its own work and activities. If TDR fails to do this, it is likely that others, e.g. the AHPSR will occupy the space and TDR's approach and activities may be compared to definitions that the organisation does not necessarily agree with.

It is difficult to get a sense of TDR's priorities within the IIR workstream. When IIR staff were asked about this, they responded priorities are identified in discussion with countries and control programmes and gave examples of priority projects, e.g. an initiative to eliminate visceral leishmaniasis in the Indian subcontinent. They also explained that priorities were decided in consultation with the SWG.

However, one member of the SWG commented that the working group had identified four strategic priorities for the IIR workstream for future focus. These are preparedness for outbreak responses; preventing and containing antimicrobial resistance; elimination of diseases; and reducing inequity and improving access to health. These appear highly appropriate although, they were not mentioned at all by the IIR team when the review team asked about IIR priorities. The reason given for this by IIR staff was that they thought they were only being asked about past priorities and not current and future priorities.

In the 2014 and 2015 IIR reports projects are organised around four objectives – facilitating innovation; sustaining the effectiveness of available interventions; strengthening the evidence base for policy decisions; and optimising the implementation of available interventions. These are used to group projects and activities in annual reports (see Figure 10). However, it is unclear the extent to which these are explicitly identified priorities which drive and determine project design and selection. Some projects (particularly under facilitating innovation) are specifically designed to allow TDR to be able to respond to requests from control programmes and to emerging epidemics and outbreaks (e.g. Ebola, Middle East respiratory syndrome and Zika) (see Box 9).

Figure 10: Diagrammatic representation of TDR's IIR activities and projects

(based on IIR annual reports 2014 and 2015; numbers (e.g. 1.1.5) relate to original table of results approved by STAC and JCB in 2014)

FACILITATE INNOVATION (1.1.5) Five projects:		**SUSTAIN EFFECTIVENESS OF AVAILABLE INTERVENTIONS** (1.1.2 and 1.1.4 merged)
In 2014	In 2015	
• Promote and facilitate open-source, open-access approaches • Generate optimised methodologies to assess the effectiveness of interventions for NTDs • Paediatric praziquantel • Facilitate the registration of moxidectin • Technical support for Ebola and other epidemic diseases	• Promote and facilitate open-source, open-access approaches • Generate optimised methodologies to assess the effectiveness of interventions for NTDs • Facilitate the development and registration of key products for public health needs* • Response to control programme requests for TDR input • Technical support for Ebola and other epidemic diseases	Vulnerability to emerging drug resistance and its consequences for control programmes – merged with integrated capacity building and research for ivermectin resistance surveillance NOTE – in 2015, TDR also added work on malaria drug resistance in relation to seasonal malaria chemoprevention (SMC) to this area.

*In addition to previous projects on paediatric praziquantel and facilitating the registration of moxidectin, this project now includes elements on Ebola virus disease and facilitation of the development of and implementation research for diagnostic tools for prevention, control and elimination of NTDs (taeniasis/cysticercosis; dengue; and onchocerciasis).

STRENGTHEN EVIDENCE BASE (1.1.6 and 1.1.7 merged; 1.1.8)	**OPTIMISE IMPLEMENTATION OF AVAILABLE INTERVENTIONS** (1.1.1 AND 1.2.1-4)
Systematic reviews and meta-analyses Databases, e.g. on TB and schistosomiasis Safety data for policy decisions – four projects in 2014; five projects in 2015 • Piloting of pregnancy registry • Birth defects database (2014)/central database for pregnancy exposure registries (2015) • Innovative approaches for safety monitoring at community level • Optimise acquisition and analysis of safety data – new in 2015 and covering loa-loa in Gabon and risk of anaemia following malaria treatment • Capacity building for safety monitoring – the UNDP Access and Delivery Partnership Project	• Support adequate country response to epidemic challenges: evidence-based guidance for dengue outbreak detection and response • Intervention and implementation research to inform policies for the elimination of visceral leishmaniasis (VL) in the Indian subcontinent (Bangladesh, India and Nepal) covering active case detection, vector control and research policy interface) • Community-based scheduled screening and treatment of malaria in pregnancy for improved maternal and infant health (COSMIC) • Improved management of childhood febrile illnesses • Structured Operational/Implementation Research and Training Initiative (SORT-IT)

Box 9: What can TDR contribute when disease outbreaks occur? The example of Ebola

TDR's 2014 annual report highlighted a number of ways in which the programme had contributed to the response to Ebola in West Africa. This included ethical review of new treatments and vaccines; the identification and testing of potential drug treatments; support to field coordination of outbreak response and operational research and raising awareness on the issues facing Ebola survivors.

The report of the Ebola Interim Assessment Panel identified the critical role that WHO had played in product R&D. This was identified as crucial in outbreaks because of the need to develop appropriate diagnostics, vaccines, therapeutics and medical/information technology. The panel also concluded that communication of risk and promotion of appropriate safe behaviours needed to be much more thoroughly researched and documented.

Respondents recognised that TDR's standing and reputation in the field of NTDs often meant that stakeholders looked to it in times of emergency, particularly as it has knowledge of clinical trial processes.

Contributing in this way does place pressures on TDR as it is a research unit and not an emergency department. The time needed by TDR to respond might be longer than might be normally expected in such emergencies. Nevertheless, there are a number of ways in which TDR can appropriately contribute to responses to subsequent outbreaks including, for example, Zika. These include:

- drawing on existing research evidence and knowledge, e.g. on the vector; and
- commissioning and supporting additional research, particularly on issues such as community awareness of research and raising awareness of communities of research issues; how spread is occurring; and what tactics are effective in responding to the outbreak.

- TDR needs to confirm if IIR is a long-term key niche in which it can contribute as there are still some views that it was a temporary refuge from product R&D while the organisation was experiencing financial and management difficulties.
- If TDR is to remain focused on IIR there is need for some clarity as to what the organisation means by this and, in particular, what types of research are included and excluded from this approach. The four focus areas identified by the IIR SWG seem highly appropriate.

Managing the workstream

TDR's IIR team currently has members with very strong academic records. However, there are concerns among some that the team may have less experience related directly to IIR than they do to pharmaceutical product development. In addition, there are concerns that some within the team may have insufficient time and focus to manage and deliver the workstream's portfolio effectively.

The IIR team use the standard methodology for managing approved initiatives. As with other teams the absence of appropriate information from a unified project/ finance management system hampers their work significantly. They have no system which details funded projects and significant additional work is necessitated. Their experience reinforces the need for an integrated project management system and this has to be linked to GSM.

Funding the workstream

One issue identified by the IIR team is that, because TDR went through such a difficult time financially in 2012/2013, it has been difficult to adjust to a situation where financial pressures

are less severe. The mindsets developed then have proved difficult to change. However, in the 2014–15 biennium the team achieved a 90% implementation rate on their revised budget of $8.4 million.

Another issue identified by IIR staff is that time is needed to seek additional financial resources and this is one area that often gets squeezed out by the pressure of other work. This reinforces the need for a more coherent approach to resource mobilisation.

Supporting research

There are a number of mechanisms for identifying and approving projects and there may be hybrids of these mechanisms. One mechanism is to have an open call for proposals. In 2014–2015 there were 11 of these open calls through Datacol. Proposals are reviewed by a panel that includes at least one SWG member. Priority is said to be given to researchers from DECs and capacity building support may be provided to such applicants, e.g. through workshops and support to ethical review. Decisions are reported to be made at the SWG according to the money allocated for each call. Staff reported that they faced challenges in identifying people to review proposals as they do not pay for such reviews. The reasons given for not paying included avoiding conflicts of interest and keeping in line with WHO practice. However, this does mean that it may prove difficult to find senior people to conduct the reviews, particularly when a large number of proposals were received. In addition to reviewing proposals, there is also a need for peer review of research protocols.

Increasingly, IIR is deciding on research projects with control programmes and countries and these are then subject to the prioritisation process involving the SWG and STAC. Indeed, this is reported to now be IIR's preferred way of working. In some cases, e.g. on safety, consultations have been held with countries and control programmes to determine the scope of work, with an open call then being launched. In addition, TDR might award work directly to a group or person through an agreement for performance of work (APW). However, the kind of work contracted through an APW is somewhat different from the type of work supported through a TSA.

Ensuring the quality of IIR's research

In practice, ongoing monitoring of research progress is most commonly delegated to the principal investigator, who is expected to report to TDR. However, TDR staff expressed concern that written reports do not always give much relevant information. This clearly needs to be addressed from the outset and expectations clarified. In some cases, TDR may seek to verify how the research study was conducted and that the research protocol has been followed. This was particularly the case when TDR was involved in product R&D but this will still be done in some cases, e.g. in a new project focused on the pathogens involved in severe sepsis in children aged up to two months. The extent to which TDR can actively engage in project monitoring depends on different aspects including the amount of funding involved.

An exception might be where TDR staff were to be cited as authors. In this case, they would be involved in ensuring the quality of the research; otherwise, they would not give approval for publication.

The IIR team leader and other respondents identified a number of ways in which TDR can control and influence research quality. These included:

- the assessment and selection of research proposals. These are always assessed independently by two reviewers and approved by the SWG. External reviews are expected to have a particular focus on the quality of science involved. There are particular expectations for clinical trials;
- reviewing the experience, track record and capacity of the researchers, particularly the principal investigator;
- scientific review of research protocols;
- periodic checks on research project progress;
- ensuring good data management; and
- monitoring the ultimate effects of research, i.e. how it is used in policy and practice. This is an area which has not been extensively used by TDR yet.

Building capacity through research

There is no strategic approach to provide capacity building support to IIR projects. Rather, such support can be provided on a case by case basis, as needs for coaching and mentoring arise.

Some projects, such as SORT-IT (see section on working in partnership, page 61), have a strong focus on capacity building, involving mentoring, a personal research project and a workshop. The SORT-IT collaboration has trained 221 participants in 13 regional or national SORT-IT programmes (48 in 10-month courses and 173 in two-day courses) and resulted in over 270 publications. In addition, TDR has been involved in producing an Implementation Research Toolkit, which is being used as the basis for workshops on conducting implementation research. There is also a new project relating to Loa loa in Gabon in which capacity building support is being provided. In this project, good data were available but not electronically, so TDR helped factor this into the costs of the proposal. The Access and Delivery Partnership Programme with UNDP and PATH was originally located under RCS-KM but it was relocated to IIR because of a focus on pharmacovigilance. This project is of potential significance as it is an example of one of TDR's co-sponsors (UNDP) working with TDR on specific capacity building.

However, it is difficult to get a full and accurate picture of IIR's capacity building achievements because they are not systematically recorded in a standard format in the workstream's annual reports.

The IIR portfolio has had significant capacity building achievements. However, IIR should develop a capacity development strategy and more systematically record and present capacity building achievements in its annual reports. This will help enable the SWG and STAC to appraise and track progress, improve alignment with strategy, and more clearly demonstrate successes to partners and funders. IIR should work with the RCS–KM portfolio when developing its capacity building strategy and reporting framework.

Working in partnership

TDR's IIR workstream does collaborate with other workstreams, e.g. RCS-KM and VES, on a case by case basis. For example, both IIR and VES are working on dengue: VES works on vector control and social mobilisation; IIR works on outbreak preparedness and clinical collaboration. They are developing a common workplan covering these components and they aim to expand this to cover other arboviruses, such as Chikungunya, yellow fever and Zika. This has been presented to both SWGs and was being further discussed at the time of the review, with the aim of refining work plans.

The IIR team report that there are good interactions with WHO control programmes, e.g. on TB, malaria and NTDs, and others. These have been improving recently. For example, in 2015, IIR introduced a project item specifically focused on responding to the needs of control programmes (see Figure 10). For example, on TB there is a project relating to capacity building on implementation research. Also, there is joint work on active TB drug-safety monitoring and management. The IIR team also highlighted interactions with country control programmes, e.g. on Visceral Leishmaniasis in Bangladesh, India and Nepal; and on dengue in Brazil, Colombia and Mexico. IIR and VES also both work with the malaria control programme. IIR collaborates with a range of other organisations and institutions, including DND*i*, Médecins sans Frontières, the Swiss Tropical and Public Health Institute the Luxembourg Institute for Health, Liverpool School of Tropical Medicine, London School of Hygiene and Tropical Medicine and the TB Alliance.

The key benefits of working in partnership with control programmes in DECs are that it ensures the relevance and uptake of research evidence and findings, builds in-country research capacity, enhances sustainability and potentially leverages funding and other resources.

Performance of IIR against OECD/ DAC criteria

Relevance

Overall, respondents consider IIR to be highly relevant to TDR, for the reasons explained above. Views are more mixed as to the relevance of the current IIR portfolio, depending on how respondents understand IIR. There are some parts of the portfolio, e.g. SORT-IT, which are considered to be particularly relevant.

Effectiveness

IIR staff consider that the approach of working closely with countries and disease control programmes is particularly effective. However, staff are concerned that limited human resources within TDR mean that there are some areas where they are less effective, e.g. communication and fundraising. There are also concerns that responding to emergencies over and above providing a knowledge function and support in identifying future research questions , e.g. Ebola and Zika (see Box 9) may overstretch TDR's human resources, resulting in TDR being less effective than it might have been.

Despite these challenges, the IIR team and the work they are supporting has resulted in a high number of academic publications. However, more could perhaps be done to make their work known and to support the uptake of research evidence into policy and practice. A key

lesson learnt in this regard is that it is easier to ensure research uptake when national disease control programmes are involved in the research from the outset, e.g. as they have been in the project on the elimination of Visceral Leishmaniasis in the Indian subcontinent.

One respondent commented that they considered TDR's IIR to be effective because in many cases the research had led to changes in policy and practice. However, they felt that TDR could do more to capture such effects as often the results in regard to policy and practice were not known.

Efficiency

Some respondents commented on the efficiency of TDR in general, and IIR in particular. Overall, they considered the work of IIR to be efficient, producing good results for the funds invested. One respondent commented that the biggest challenge to efficiency related to being part of the UN system in general, and WHO in particular. Another respondent commented that this can be a problem if IIR wants to organise a joint meeting and wants to do this quickly.

The IIR team achieved a 90% implementation rate in the last biennium.

Impact

TDR's PAF identifies a number of expected impacts. Table 7 briefly considers the evidence that work and activities supported by IIR have contributed to these. This is based on interviews with a range of informants but is not exhaustive.

Table 7:   To what extent is TDR's IIR contributing to the achievement of impact goals?

Impact goal	Achieved?	Evidence
Foster research on infectious diseases of poverty that leads to health improvement	Probably yes	Fostering research is at the heart of IIR's work and activities. There is probably a need for more evidence of health improvement
Engage disease endemic regions and countries in setting the health research agenda and harmonising the global response	Yes	Particularly through work with countries and disease control programmes (e.g. on Visceral Leishmaniasis, WARN-TB, dengue outbreak preparedness) and on initiatives such as SORT-IT
Strengthen the capacity of individuals and institutions in DECs to perform research related to their own priority health issues	Yes	Particularly through SORT-IT but also in other cases
Develop innovative knowledge, solutions and implementation strategies that respond to the health needs of DECs	Probably yes	See upper left quadrant of Figure 10

Translate innovation, knowledge, solutions and implementation strategies into policies and practices that improve health	To some extent	There are some examples where this is happening, e.g. SORT-IT and where control programmes are engaged but this is the heart of implementation research and could be done more
Promote the involvement of individuals, communities and societies in the use of research evidence to reduce the burden of endemic diseases in their countries	Not known	The extent to which individuals, communities and societies participate in IIR is not clear from the documents reviewed

Sustainability of IIR

TDR's approach is contributing to building a sustainable culture of IIR through embedding this in countries' disease control programmes, e.g. on Visceral Leishmaniasis in the Indian subcontinent. A survey among 76 people who had completed a SORT-IT course (Guillerm et al., 2014) showed high levels of ongoing involvement in operational research after completion of the course. Almost two-thirds (47; 62%) completed new research projects and a third (25; 33%) secured further funding for operational research.

Resource mobilisation to support sustainability does not seem a specific focus of work for the IIR team.

Quality of science

Although some members of the IIR team consider that responsibility for the quality of research rests with the principal investigator and their institution, the team does have a number of mechanisms in place to ensure the quality of supported research. These include the assessment and selection of research proposals; reviewing the experience, track record and capacity of the researchers; scientific review of research protocols; periodic checks on research project progress; ensuring good data management; and monitoring the ultimate effects of research. This final area of monitoring how research influences policy and practice is an area which could be monitored more by IIR specifically and TDR in general.

Conclusions

The review confirms the following achievements of TDR:

- the governance of TDR has been strengthened, with there now being greater oversight;
- TDR has made a good recovery from its financial crisis and has restored its credibility with donors, partners and key stakeholders;
- TDR has increasingly become a convenor, source of knowledge and facilitator for a wide range of stakeholders and activities;
- implementation research is seen to be an appropriate and relevant focus of work;
- TDR has strengthened its Secretariat, both in terms of people and also systems; and
- it has proved itself efficient at planning and implementing its workplan.

TDR still faces a number of challenges, as follows:

- retaining the commitment of its co-sponsors;
- ensuring a consistent message about the focus of its work, particularly if it becomes responsible for a fund for product development;
- ensuring ongoing funding, both designated and undesignated;
- succession planning and ensuring the availability of appropriate organisational competences; and
- obtaining an integrated finance/ project management system that is fit for purpose and ensuring all staff, including technical staff, make use of systems.

In the strategic period there would seem to be a number of additional opportunities to allow TDR to build further on its achievements to date, including:

- working more closely with partner organisations to share and rationalise capacity building initiatives;
- utilising TDR Global to even greater benefit to support a community of implementation researchers;
- adapting its capacity building activities to become a commissioner of DEC institutions with capacity for direct training and development; and
- managing the risks and opportunities of the HPRDF.

Annex A   Terms of Reference for the Review

Sixth External Review of TDR, the Special Programme for Research and Training in Tropical Diseases co-sponsored by UNICEF/UNDP/World Bank/WHO

Terms of Reference

Introduction

The 6th external review is commissioned by TDR's Joint Coordinating Board (JCB) as a mid-term evaluation of TDR's 2012-2017 Strategic plan. The objective is to assess how the work programme is progressing in the current strategy and to evaluate the changes in structure and management processes made in 2012. The report will be reviewed by the Standing Committee in April 2016 and the JCB in June 2016. The findings of the review will inform the development of the next strategy 2018-2023. This new strategy will be reviewed by STAC in March 2017 and submitted for approval to the JCB in June 2017.

Background

Since the fifth external review conducted in 2011 following financial difficulties, TDR has gone through a major restructuring exercise leading to a leaner and more focused Programme. The findings of the fifth external review informed the development of TDR's Strategic Plan 2012-2017[3].
TDR's current strategy focuses on the impact on the life, health and well-being of people in disease endemic countries, in line with TDR's vision: "The power of research and innovation will improve the health and well-being of those burdened by infectious diseases of poverty."
In line with its mission to "foster an effective global research effort on infectious diseases of poverty and promote the translation of innovation to health impact in disease endemic countries", TDR focuses on three main work areas:

- Intervention and implementation research
- Research on vectors, environment and society
- Research capacity strengthening and knowledge management, through gap analysis for agenda setting, and through partnership and engagement.

In the context of TDR's Performance Assessment Framework[4], revised as per the TDR Strategic Plan 2012-2017, external evaluations of selected projects are commissioned by TDR Secretariat and conducted regularly; they contribute to TDR's continuous performance improvement. Formative and prospective evaluations of (i) TDR's Regional Training Centres and (ii) TDR's capacity strengthening grant schemes are conducted in 2015. The findings, expected by January 2016, will inform the 6th external review.

Purpose of the review

TDR External Reviews are commissioned by the JCB every 5-7 years for both accountability and continuous performance improvement purposes. These reviews are conducted and provide an independent and in-depth understanding of the Programme's relevance and performance, and set future strategic directions. They provide an objective measure for funders to inform their future investment decisions. Formative, they identify opportunities for

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[3] http://www.who.int/tdr/publications/strategic_plan/en/
[4] http://www.who.int/tdr/publications/about-tdr/strategy/framework/en/

continuous performance improvement, through analysis of lessons learnt and identification of necessary readjustments in order to improve the Programme's effectiveness and efficiency in implementing the current strategy.

Scope and focus

The 6th external review will focus on the five main evaluation criteria[5] i.e. relevance, effectiveness, efficiency, impact and sustainability; and on the quality of science.

The scope of this review is defined as per the main areas of work and the new business model designed to implement TDR's 2012-2017 strategy with a leaner and stronger Programme:

- TDR focus on implementation and intervention research
- Research capacity strengthening
- Knowledge management (gap analysis for agenda setting and partnership and engagement)
- TDR's new structure and business model

The proposed broad questions to be addressed by the review are formulated to cover five key evaluation criteria together with scientific quality:

Relevance

Is TDR's added value in convening, consensus building, establishing priorities and promoting/ supporting intervention and implementation research and research capacity for infectious diseases of poverty still needed?

- Is TDR addressing important challenges, needs and gaps?
- Are there any unnecessary duplications and how complementary are TDR's efforts to others working in the field of global health research and infectious diseases of poverty?
- How does TDR work with others in the field and its stakeholders? Do partners benefit from TDR interaction?
- Is TDR sufficiently flexible to retain relevance and respond to changes in the environment? How is the Programme positioned to contribute to the post 2015 agenda and the sustainable development goals?
- Have the new TDR Programme organizational structure and strategic directions set in 2012 been appropriate?
- To which extent have the recommendations of the fifth external review been addressed?
- How does TDR make future plans? Does it follow a transparent process? Who are the stakeholders consulted?

Effectiveness

How effective has TDR been in addressing the technical and policy recommendations of its scientific committees, STAC, Standing Committee and JCB?

- Has TDR effectively shifted from pharmaceutical product research and development towards intervention and implementation research?

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[5] As per OECD Development Assistance Committee's principles of evaluation

- Is TDR on track for achieving its proposed objectives and planned outputs in line with the 2012-2017 strategy?

- Is TDR fit for purpose – if achieved will the objectives deliver TDR's goals and will the activities deliver their objectives?

- Is TDR fit to adapt to the changing and evolving values of partners (including the co-sponsors) and to contribute to the post 2015 agenda and sustainable development goals?

- Are risk management strategies fit for purpose?

- Could TDR be more effective in the field? If so, how?

- What are the specific limitations of TDR that should be addressed in the short, medium and long term?

- Are advisory committees sufficiently independent with mechanisms in place to ensure that 'interest groups' cannot influence funding decisions? Are the current inter-relationship of the committees and membership of the committees best structured to ensure TDR can deliver on its objectives?

- Are proposed structures to incorporate oversight of the pooled member states fund for product development R&D sufficiently robust and separate from TDR core business? Are the strategies in place to manage the related risks appropriate and are the risks well managed?

Efficiency

Are the three strategic functions and the revised managerial structure and portfolio appropriate and cost-efficient to deliver on the strategy?

- Is TDR expenditure optimally balanced between the different activities?
- Are the internal systems fit for purpose?
- Is the internal structure fit for purpose?

Impact

What major outcomes and impact has TDR contributed to in relation to health research landscape for infectious diseases of poverty?

- What are TDR's main achievements – including tangible, perceived, intended, expected and unexpected?
- What are benefits where TDR has worked in partnership with others, including organizations that are members of the Standing Committee, JCB?

Sustainability

To what extent are TDR outcomes sustainable?

- Are the governance and the funding pattern (level and type of funding) adequately supporting TDR's future sustainability?
- What are the elements that would enhance the sustainability of TDR's achievements?
- Do partnerships contribute to sustainability and if yes how and if no why?
- Is Special Programme status in WHO the best model for the future?
- What role could the co-sponsors and Board members play in the sustainability of TDR?

Quality of science

- Is scientific decision-making independent and rigorous?
- Is TDR's research of the highest quality? And if not, what can be done to improve this?
- How well does TDR survey the wider research environment to ensure there is minimal duplication of effort?
- What steps are in place to ensure that all TDR commissioned/funded work is of the highest quality and is completed in time and within budget?
- Are project portfolios managed effectively in each operational unit and within TDR overall?
- How are issues around intellectual property and open access being handled?
- To what extent is TDR's funded work published in peer-reviewed publications? Which suitable measures should TDR use to assess the impact of peer-reviewed publications from TDR-funded work?

Stakeholder participation

The review should involve a range of TDR's stakeholder representatives to better review expectations, achievements and perceptions of the Programme. It is recommended that interviewees include members of TDR Secretariat, members of TDR's governing bodies and scientific and advisory committees, TDR co-sponsors, beneficiaries in disease endemic countries and developed countries, partners in the public and private sectors, product development partnerships (PDPs) and donors.

External review methodology

The review methodology will be established by the reviewers and may include, although is not limited to, the following:

- Analysis of existing documents such as: the TDR Performance Assessment Framework, TDR plans, portfolio of projects, annual reports, mapping of grants awarded in the context of the 2012-2017 strategy, project evaluation reports, and TDR stakeholder survey (2013)
- Interviews with stakeholders on TDR's perceived role, relevance and issues
- Interviews with TDR and WHO staff

Deliverables and timelines

- Proposals received from bidders (30 September 2015)
- An external review plan drafted by the selected external review team and agreed by TDR Standing Committee (including objectives, approach, main elements to be examined, evaluation questions, methodology, timeline and milestones, etc.) (January 2016)
- A draft external review report, to be presented by the review team leader and discussed with TDR Standing Committee, including an analysis, conclusions and recommendations (mid-April 2016)
- The final external review report to be submitted to TDR (early May 2016)

Sixth External Review team

TDR Standing Committee members will provide oversight of the external review on behalf of JCB. The review will be undertaken by a team of selected experts experienced in programme evaluation, including public health and United Nations organizations and with a broad knowledge of health research, related capacity strengthening and knowledge management. The external review team will be selected from a list of potential bidders in consultation with the Standing Committee members.

Annex B   List of people interviewed

Surname	First name	Organisation
Abeyasinghe	Rabindra	Western Pacific Regional Office, WHO
Akuffo	Hannah	Research Cooperation Unit, SIDA
Alonso	Pedro	Global Malaria Programme, WHO
Alvar	Jorge	DND*i*, Drugs for Neglected Diseases Initiative
Askew	Ian	Special Programme of Research, Development and Research Training in Human Reproduction (HRP), WHO
Aslanyan	Garry	Director's Office, TDR
Avafia	Tenu	Policy Adviser, HIV, Health and Development Practice, Bureau for Development Policy, UNDP
Baldet	Thierry	IDRC, International Development Research Centres
Bates	Imelda	Liverpool School of Tropical Medicine
Bilbe	Graeme	DND*i*, Drugs for Neglected Diseases *initiative*
Bockarie	Moses	Liverpool School of Tropical Medicine
Boerma	Ties	Health Statistics and Information Systems, WHO
Brutus	Olivier	Transitions and Talents
Bundy	Don	Bill and Melinda Gates Foundation
Cabezas Sánchez	Cesar	Directorio Nacional de Investigadores e Innovadores, Peru
Campbell-Lendrum	Diarmid	PHE, Evidence and Policy on Environmental Health, WHO
Cole	Donald	University of Toronto
Dagne	Daniel	Department of Neglected Tropical Diseases Control, WHO
Diaz	Theresa	Knowledge Management and Implementation Research Unit, Health, UNICEF
Donoghue	Martine	Mott MacDonald
Easter	Caroline	Portfolio & Programme Management, TDR
Engels	Dirk	Department of Neglected Tropical Diseases Control, WHO
Fock	Philippe	HIV/AIDS, TB, Malaria and Neglected Tropical Diseases (HTM), WHO
Fouque	Florence	Vectors, Environment & Society, TDR
Friede	Martin	Department of Emergency Risk Management and Humanitarian Response, WHO
Gauvin	Kim	Portfolio & Programme Management, TDR
Ghaffar	Abdul	Alliance for Health Policy and Systems Research (AHPSR), WHO
Guth	Jamie	Director's Office, TDR
Gyapong	John	University of Ghana
Halleux	Christine	Intervention and Implementation Research, TDR

Surname	First name	Organisation
Halpaap	Beatrice	Portfolio and Programme Management, TDR
Hemingway	Janet	Liverpool School of Tropical Medicine
Hirnschall	Gottfried	Department of HIV and Global Hepatitis Programme, WHO
Horstick	Olaf	University of Heidelberg
Jeffreys	Nick	Finance, WHO
Kieny	Marie-Paule	Health System and Innovation (HIS), WHO
Kinn	Sue	Health Research, DFID
Korte	Rolf	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Eschborn, Germany
Kouyate	Bocar	Ministry of Health, Burkina Faso
Launois	Pascal	Research Capacity Strengthening & Knowledge Management, TDR
Leonor	Dorothy	Information Technology, WHO
Luna	Florencia	Bioethics Program of FLACSO Latin American
Maher	Dermot	Research Capacity Strengthening & Knowledge Management, TDR
Makanga	Michael	European and Developing Countries Clinical Trial Partnership
Manderson	Lenore	School of Public Health, University of the Witwatersrand, Johannesburg, South Africa
Mclean	Robert	IDRC, International Development Research Centres
Mgone	Charles	European and Developing Countries Clinical Trial Partnership
Mihut	Mihai	Portfolio & Programme Management, TDR
Mulenga	Modest	Tropical Diseases Research Centre
Murad	Shahnaz	Ministry of Health, Putrajaya, Malaysia
Nakatani	Hiro	Keio University and Japan Agency for Medical Research and Development, Tokyo, Japan
Ning	Xiao	National Institute of Parasitic Diseases (IPD), Shanghai, People's Republic of China
Nwaka	Solomon	ANDi, African Network for Drugs and Diagnostics Innovation
Ogundahunsi	Olumide	Research Capacity Strengthening & Knowledge Management, TDR
Olliaro	Piero	Intervention and Implementation Research, TDR
Ota	Martin	AFRO, African Regional Office, WHO
Pécoul	Bernard	DND*i*, Drugs for Neglected Diseases *initiative*
Perks	Rachel	Human Resources, WHO
Por	Ir	National Institute of Public Health, Phnom Penh
Rabello	Ana	Oswaldo Cruz Foundation
Ramirez	Bernadette	Vectors, Environment and Society, TDR
Reddy	David	Medicines for Malaria Venture
Reeder	John	Director's Office, TDR

Surname	First name	Organisation
Saxena	Abha	WHO Ethical Review Committee
Snewin	Val	Wellcome Trust
Sommerfeld	Johannes	Vectors, Environment and Society, TDR
Squire	Stephen Bertel	Liverpool School of Tropical Medicine
Terry	Robert	Research Capacity Strengthening & Knowledge Management, TDR
Ujah	Innocent	Nigerian Institute for Medical Research (NIMR)
Vahedi	Mahnaz	Research Capacity Strengthening & Knowledge Management, TDR

Annex C   Progress implementing key issues from the 2011 Review

Topic	Progress	Issues for further consideration
Research Focus		
Reduce work in product development and shift focus to implementation research	Current work reflects this aim but there is a danger that management of the HPRDF could be seen as constituting a U turn. Focus has shifted to implementation research although an unclear definition means that the work covers quite a wide range of initiatives, some of which would not be universally recognised as implementation research.	There is need for clarity as to whether the shift away from project R&D was strategically based on niche or simply tactical because of reduced funding. This has implications for TDR operating the R&D pooled fund. TDR needs to be clearer as to what it means by implementation research and what work it will (and will not) support in this area.
Need for systems to ensure quality of work undertaken	Many elements of a QA system (project selection; project management; publication; use of research evidence) are in place but these are not yet documented as an overall QA system. Indicators of quality in the performance assessment framework are weak.	TDR might want to shift away from reliance on simplistic indicators for measurement of quality. If they had a formal QA system in place they could then check the extent to which that operates as expected.
Stewardship		
Build on convening power to review research findings, map need for research and potential funding sources and identify (and facilitate filling) research gaps	The creation of the SWGs in addition to the STAC is moving the agenda in this direction. Increased joint work on scoping the field systematically including consolidation of findings into publications and commissioning systematic reviews.	More effort is needed in using members of governance fora to identifying potential funding sources. Resource mobilisation function needs additional resources to intensify donor relationships.
Empowerment (Capacity Building)		
Refocus capacity building on institutions but continue to support individuals through re-entry grants	RTCs and universities delivering masters and doctorate programmes identified. Small number of re-entry grants funded from 2013. Postdoctoral course in implementation research offered in 2016 (Ghana).	Need to support development of business plans for RTCs. Need to continue to review balance between individual and institutional support. May need to analyse reasons for poor response to call.
Convene experts to develop a competence framework for individuals and organisational standard for institutions	Competence framework developed for clinical research	Consider developing team competence framework for implementation research possibly in conjunction with AHPSR and HRP. Develop a standard for institutional assessment with input from RCS-KM SWG members.
Governance		

Topic	Progress	Issues for further consideration
Relocate TDR to the HTM cluster	Achieved	Current position with WHO appears to optimise links with disease control programmes.
Establish a "cabinet" with remit for strategic decision making, operational planning, holding director and team to account, monitoring of implementation, financial management and adherence to quality	The role and composition of the Standing Committee has changed and it has a stronger focus on strategy and oversight.	Consideration should be given to optimum location of meetings.
Revise frequency of meetings	SC meetings are held six monthly and STAC and SWG meetings are held yearly.	No change suggested.
Revising the remit of the current JCB so that a stakeholder forum is created with a role in advocacy, resource mobilisation, strategic consultation and information exchange	This has not been implemented although the creation of SWGs partially fulfils some of these functions.	No change suggested.
Revising membership of the STAC to mirror the refocused areas of activity	Opportunities have been taken to change the portfolio of expertise on the STAC and the gender balance. Also SWGs provide specific thematic guidance aligned to research priorities.	Suggest that future appointments be based on some form of skills and knowledge audit, i.e. assessing available against those needed. There appears less expertise in implementation research and capacity building.
Management		
Strengthen finance function	Appropriately experienced staff in post	The current staff have to devote too much time to remedial assistance to teams and subsidising the lack of an adequate project management system.
Strengthen costing and budgeting and improve financial management systems	Financial information systems established. Culture of financial management not embedded in all managers.	Additional external training to managers. Improved portfolio/project management system required – ideally a module to GSM, otherwise second best solution must be developed.
Introduce risk management	High level risk management system introduced. Risk management currently identified as the responsibility PPM and Directors Office.	Management of risk needs to be apportioned to appropriate individuals throughout the organisation and cascade to the individual project level.
Personal objective setting and appraisal needs to drive activity	Personal performance reviews are carried out but objectives do not appear to be consistently reflected in individual work undertaken although some teams (VES) find it helpful.	The lack of sanctions for inadequate performance appear to hamper the successful delivery of some work.
Identify a director with strong leadership skills and technical credibility	Achieved and widely acknowledged	Need to increase external visibility and credibility of senior management team and give consideration to aspects of succession planning.

Annex D   Performance against TDR Performance Assessment Frameworks

Legend

	Completed according to plan
	Completed but delayed
	Meets or exceeds progress expectations
	Largely meets progress expectations
	Progress expectations not met - target/project appropriately adjusted through consultation with TDR Governance
	Progress expectations not met - no clear mitigating actions
	Progress is cause for concern
	Project discontinued/adjusted by TDR due to funding/support/strategic issues - appropriate mitigating actions taken including modifying/merging/transitioning projects to partners
	Project discontinued by TDR due to funding/support/strategic issues - no mitigating actions

D.1 TDR overall performance against Performance Assessment Frameworks 2012-2015

Expected results	Key performance indicators	Baseline (2011)	Target (2017)	Frequency of measurement	Progress in 2013	Progress check 2013	Progress in 2014	Progress check 2014	Progress in 2015 (PROVISIONAL)	Progress check 2015 (PROVISIONAL)
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%	Measured annually, cumulative over 6 years	13 (+4) 72%		17 (+4) 70%		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	Measured annually, cumulative over 6 years	3 (+2)		3 (0)		4 (+1)	
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%	Measured annually, cumulative over 6 years	100%		16 (+6) 100%		20 (+4) 100%	
	4. Number of peer-reviewed publications supported by TDR and percentage published in open access journals	233 Not measured	≥150/year 100%	Measured annually	327 (2012-2013) (+120 in 2013) 60% (2012-2013) (50% in 2013)		554 (2012-2014) (+227 in 2014) 88% open access (2014)		740 (2012-2015) (+186 in 2015) 75% open access (2015)	

Expected results	Key performance indicators	Baseline (2011)	Target (2017)	Frequency of measurement	Progress in 2013	Progress check 2013	Progress in 2014	Progress check 2014	Progress in 2015 (PROVISIONAL)	Progress check 2015 (PROVISIONAL)
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	Measured annually, cumulative over 6 years	10 (+6)		16 (+6)		21 (+5)	
	6. Proportion of peer-reviewed publications supported by TDR with first author from Disease Endemic Country (DEC) institutions	61%	≥70%	Measured annually	68%		67%		63%	
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	Measured annually, cumulative over 6 years	0		3(+3)		3 (0)	
	8. Number of TDR grantees/trainees and proportion demonstrating career progression and/or increased scientific productivity	0	150 ≥80%	Measured on cohorts 3-5 years after training ended	57 (+37) (% to be measured later)		58/68 85% 140 new trainees (+103 in 2014)		58/68 85% 318 new trainees (+178 in 2015)	
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	Measured annually, cumulative over 6 years	8 (+2)		8		9 (+1)	
	10. Proportion of TDR outputs produced with key DEC stakeholder active involvement	Not measured	100%	Measured annually	100%		100%		100%	

Expected results	Key performance indicators	Baseline (2011)	Target (2017)	Frequency of measurement	Progress in 2013	Progress check 2013	Progress in 2014	Progress check 2014	Progress in 2015 (PROVISIONAL)	Progress check 2015 (PROVISIONAL)
Application of core values										
Equity Social and economic:	11. Proportion of TDR grants/contracts awarded to institutions or individuals in DECs (total count and total dollar amount)	59% DEC	75% DEC	Measured annually	75%		70% DEC (amount) 62% DEC (count)		78% DEC (amount) 62% DEC (count)	
	12. Proportion of experts from DECs on TDR advisory committees	58%	60%	Measured annually	69%		71%		Not measured yet 2014 data: 71%	
Gender	13. Proportion of women among grantees/contract recipients (total count and total amount)	35% (n) 17% ($)	50%	Measured annually	Not measured in 2013		43% (% count) 28% (% amount)		39% (% count) 34% (% amount)	
	14. Proportion of women on TDR advisory committees	32%	50%	Measured annually	42%		43%		Not measured yet 2014 data: 43%	
	15. Proportion of women as first author of peer-reviewed publications supported by TDR (within a calendar year)	Not measured	50%	Measured annually	41%		47%		39%	
Effective partnerships	16. Resources leveraged as direct contributions (co-funding, services or in-kind) to TDR projects (examples)	Not measured	To be defined	Measured annually	1:4 (US$ TDR : US$ partners)		1:3 (provisional data) ($ TDR : $ partners)		Not measured yet. 2014 data: 1:3 (provisional data) ($ TDR : $ partners)	
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	Measured annually, two years after adoption	60 (+3)		71		Not measured yet. 2014 data: 72	

Expected results	Key performance indicators	Baseline (2011)	Target (2017)	Frequency of measurement	Progress in 2013	Progress check 2013	Progress in 2014	Progress check 2014	Progress in 2015 (PROVISIONAL)	Progress check 2015 (PROVISIONAL)
Quality of work	18. Proportion of project final reports found satisfactory by peer-reviewcommittees	Not measured	Not measured	Measured annually	100%		100%		Not measured yet. 2014 data: 100%	
Management performance										
Effective resource mobilization	19. Percentage of approved biennial budget successfully funded	78%	≥100%	Measured in the second year of each biennium	97%		To be measured in 2015		>100%	
	20. Percentage of income received from multi-year agreements	Not measured	To be defined	Measured in the second year of each biennium	26%		To be measured in 2015		72%	
Effective management	21. Percentage of staff workplans and performance reviews (including personal development plan) completed on time	Not measured	≥90%	Measured annually	100%		90.40%		87%	
	22. Proportion of expected results on track	60%	≥80%	Measured annually	96%		69%		92%	
	23. Proportion of significant risk management action plans that are on track	Not measured	≥80%	Measured annually	100%		100%		100%	

D.2   RCS&KM performance against Performance Assessment Frameworks 2012-2015

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
EXPECTED RESULTS 2014-2015					
Outcome 2.1 (Research Capacity Strengthening): Sustainable health research capacity in disease endemic countries developed and facilitating innovation and translation of research into policy and practice	By 2017, 75% of the innovative knowledge, new/improved solutions or implementation strategies developed are successfully applied in developing countries				
2.1.1. Strategic support to WHO regional activities and networks: i) small grants programme operational in regional offices; ii) regional capacity centres strengthened and active	By 2015, at least fifty small grants awarded, addressing health research priorities in WHO regions	• 38 small grants awarded through collaboration with WHO Regional Offices • One Regional Training Centre established in five of the WHO Regions (AFR, AMR, EUR, SEAR and WPR)		41 small grants awarded in 2015 through collaboration with WHO Regional Offices (awards in EURO in process) (38 small grants awarded in 2014) • One Regional Training Centre now established in each of the six WHO Regions (AFR, AMR, EMR, EUR, SEAR and WPR)	
2.1.2. Targeted research training grants in low- and middle-income countries: early career and advanced global health targeted support with focus on least developed countries	By 2015, 30 to 40* trainees progressing in early career and advanced global health training programmes	• 21 trainees in early career research training (8 trainees at Masters level and 13 trainees at PhD level) • 9 trainees in advanced career research training (at postdoctoral level)		• Postgraduate scheme established in 2015 involving 7 universities in which TDR will support 74 fellows (67 Masters and 7 PhD) in its first year • Postdoctoral pilot training scheme established in 2015 hosted by Noguchi Institute in Accra, Ghana, in which TDR will support 4 fellows in	
2.1.3. RCS/KM impact grants to improve disease control	By 2015, 20 to 30* impact grants awarded	• 26 IMPACT grants awarded		42 short-term training (IMPACT) grants awarded in 2015	
2.1.4. Advanced training in clinical product development: career development fellowship grants	By 2015, 15 to 35* grants ongoing during the biennium	• 17 Career Development Fellowship grants ongoing		23 Career Development Fellowship grants awarded in 2015 through joint TDR-EDCTP scheme (18 funded by TDR)	
2.1.5. TDR alumni and experts network to follow up on the long term career impact of TDR training and research grants	By 2015, database developed and concept tested	• Network requirements established, potential network developers identified and request for proposals prepared		Network requirements established, network developer identified and database developed, with work on the platform in progress	

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
Outcome 2.2 (Gap analysis for agenda setting): Agreed priorities and research agenda used by disease endemic countries - UPDATED 2015	By 2017, 75% of the innovative knowledge, new/improved solutions or implementation strategies developed are successfully applied in developing countries. ADAPTED 2015 -Strengthen capacity in LMICs to bring research evidence into policy. Create outputs e.g. policy briefs and recommendations on selected topics aligned with priorities in TDR, HTM and other WHO technical programmes as appropriate.				
2.2.1. Knowledge management, priorities and gaps: i) report on implementation/operational research to further map partners, priorities, activities; ii) report on RCS including approaches, practices and results; iii) appropriate dissemination of recommendations from previous published reports. ADAPTED 2015 - 2.2.1 1) Complete a review in the area IR/OR research to further map partners, priorities, ongoing activities and TDR's niche within the area. Includes a new method for defining IR/OR. 2) Complete a review in the area of research capacity development approaches, including experiences, results, priorities and recommendations. 3) Integrate the TDR priority-setting with the proposed WHO health R&D Observatory.	By 2015, reports finalized and published	• One report in progress based on a scoping review in the area IR/OR research to further map partners, priorities, ongoing activities and TDR's niche within the area. • One report published in 2014 based on a scoping review in the area of research capacity development approaches, including experiences, results, priorities and recommendations.		One report completed to inform a scoping review in the area IR/OR research to further map partners, priorities, ongoing activities and TDR's niche within the area. • One report published in 2015 based on a scoping review in the area of research capacity development approaches, including experiences, results, priorities and recommendations. • TDR priorities are to be integrated within the WHO R&D Observatory to be launched January 2016.	

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
2.2.2. Capacity strengthening to bring research evidence into policy: i) research groups in disease endemic countries capable to develop systematic reviews, research synthesis, policy briefs; ii) policy briefs produced. ADPATED 2015 - 1. Strengthen capacity in LMICs to bring research evidence into policy through training and workshops.2. Create outputs e.g. policy briefs and recommendations on selected topics aligned with priorities in TDR, HTM and other WHO technical programmes as appropriate.3. Facilitate improvements in research cooperation through better sharing of research findings and data.	By 2015, 5 to 7* policy briefs relevant to TDR/HTM scope of activities produced in DECs	• Methodology developed and/or adapted from EVIPNet to enable appropriate generation of translation mechanisms.		• Training provided to 24 SORT-IT fellows and representatives of 11 African countries as part of EVIPNet programme.• Methodology validated by pilot testing, peer review and published (figures being collated)• Ongoing project with SORT-IT fellows in EURO. C-PATH chosen to host 4 x TB clinical trial data.	
Outcome 2.3 (Partnership and engagement): Global/regional stakeholders and major funding agencies use TDR-facilitated tools and reports to inform policy and/or practice	By 2017, 7 new tools and reports are used to inform policy and/or practice of global/regional stakeholders or major funding agencies				
2.3.1. Collaborative networks for harmonization of policies and practices: i) harmonized principles, policies, standards and practices; ii) expansion with new stakeholders such as emerging research councils, national institutes*, universities* and pilot countries	By 2015, two new practices/standards agreed by ESSENCE			In 2015, one new practice/standard agreed (impact of global health research on development) and one revised (monitoring and evaluation framework) by ESSENCE.	
2.3.2. Strategic engagement in global health initiatives and networks	By 2015, key global health research issues promoted through initiatives via consultations, debates, publications, etc.			In 2015, joint ECDCTP/TDR/MRC (UK) call issued on strengthening capacity for research on emergencies.	

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
EXPECTED RESULTS 2012-2013					
Outcome: DEC institutions leading sustainable health research and research training with emphasis on implementation research	By 2015, five institutions in DECs using IR curriculum and training tools				
Output: Implementation research (IR) curriculum and modules developed, tested and training modules used to train researchers in DECs		Major progress was achieved in developing the toolkits for IR training - pilot will be completed in 2013 (description included in this report)		Not reported in consistent performance framework format	
Outcome: DEC scientists leading research agendas at national and international levels	By 2015, 50% of TDR (training) grantees are lead authors in peer reviewed publications				
Individual training grants in research and leadership for DEC scientists from Bhutan, Burkina Faso, Ethiopia, Nepal, Nigeria, Rwanda and Sudan		New call for RCS/KM grants targeting LMIC countries issued in February 2013. The small grants programme with the WHO regional offices has been reactivated		Not reported in consistent performance framework format	
Career development fellowship (CDF) for health researchers from DECs, e.g. Benin, Cameroon, Colombia, DR Congo, Peru and Viet Nam		Twelve Career Development Fellowships were completed in the last 12 months (list provided)		Not reported in consistent performance framework format	

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
Outcome: Harmonized stakeholder-endorsed top-level research agenda	By 2015, TDR reports on research priorities used by countries and donors				
Global report on research priorities for infectious diseases of poverty		The Global Report was launched at an EU symposium and has been disseminated through different mechanisms		Not reported in consistent performance framework format	
Report on research funding landscape for infectious diseases of poverty		The report on research funding landscape was completed and submitted to the EC. Four research priority reports (TRS) were produced.		Not reported in consistent performance framework format	
Enhancing Support for Strengthening the Effectiveness of National Capacity Efforts (ESSENCE) in Health Research		ESSENCE initiative produced a new publication on research costing		Not reported in consistent performance framework format	
Initiative to Strengthen Health Research Capacity in Africa (ISHReCA)		ISHReCA was transferred to a research organization in Cameroon and a workplan was developed		Not reported in consistent performance framework format	
Outcome: Regional networks for product R&D established and functional	By 2015, at least one regional network functional				
Asian (ASEAN and China) and Latin-American Networks for Drugs and Diagnostics Innovation (NDI) established		Business plan for ASEAN network was completed involving ten countries in South-East Asia		Not reported in consistent performance framework format	
Support for global and regional networks including African ANDI		Expertise of the selected Centres of Excellence was mapped. Two R&D projects were initiated. External independent review was completed and very supportive		Not reported in consistent performance framework format	

D.3   VES performance against Performance Assessment Frameworks 2012-2015

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
EXPECTED RESULTS 2014-2015					
Outcome 1: Increased access, especially for poor communities in low- and middle-income countries, to health interventions and effective health services to combat diseases.	Case studies published on the uptake of CBI approach in various settings	• During 2014, several single-site analyses on TDR funded CBI research were published.			
Research reports, publications and strategies to strengthen primary health care, focusing on fever management of severe childhood illnesses in peripheral settings.	By 2015, 6 studies published. By 2014, 6 studies published	• Publications delayed as research portfolio on fever management in peripheral health care settings ongoing in 4 African countries (Burkina Faso, Malawi, Nigeria and Uganda). Publications expected in 2015.		• Community research on implementation of HMM+ strategy for enhanced Primary Health Care in child care in Burkina Faso, Nigeria and Uganda completed, data analysis advanced and special journal issue on the subject in preparation, for publication in early 2016.	
Review and assessment of incentives for motivation and retention of Community Health Workers (CHWs), including testing of innovative and sustainable options.	By 2014, 6 reviews / studies published. Delayed from 2012 expected completion date.	• Realist review completed and published in online manual on community health workers. Multi-country research (in DR Congo, Ghana, Senegal and Uganda) completed in 2014 and presented at Global Symposium for Health Systems Research			
Testing of the public health benefit of a treatment package for integrated Community Case Management (iCCM) of malaria and pneumonia, focusing on mortality.	By 2015, 3 country studies published	• Two studies (Ghana, Uganda) published in 2012, publication on Burkina Faso under way. • The three TDR studies were featured in 2014 as the only RCTs in a major evidence review symposium on iCCM.		• Two studies (Ghana, Uganda) published in 2012, publication on Burkina Faso being prepared, • The three TDR studies were featured in 2014 as the only RCTs in a major evidence review symposium on iCCM. • Meta-analysis of data from three RCTs under way	
Knowledge generation and management on community-based interventions	By 2014, 8 systematic reviews on community-based interventions (CBI) for the prevention and control of infectious diseases of poverty published.	• These were published as a highly accessed special issue in Diseases of Poverty in 2014.		• These were published as a highly accessed special issue in Diseases of Poverty in 2014.• Publication on CBI in Int Quarterly of Community Health Education (2015, Vol 35 (4): 295-316	

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
Outcome 2: Policies and strategies influenced by new evidence from community-based vector control	By 2014, 8 research studies published for 7 Latin American countries	• Eight studies published in a special issue of Transactions of the Royal Society for Tropical Medicine and Hygiene (Jan 2015).			
Cross-disciplinary research framework for eco-bio-social (EBS) studies and toolkit for EBS research	By 2014, EBS framework developed in Latin America	• Research framework developed and applied in research initiative in Latin America and the Caribbean. Published in BMC Infectious Diseases (2014).			
Evidence for EBS approach to strengthen vector-borne disease control	By 2014, 15 studies completed and published	• Fifteen studies completed and published: Six dengue studies in Asia (India, Indonesia, Myanmar, Philippines, Sri Lanka and Thailand) completed in 2012 and published between 2010 and 2013; eight studies in Latin America and the Caribbean (Brazil, Colombia, Ecuador, Mexico and Uruguay for dengue studies and Bolivia, Guatemala and Mexico for Chagas disease studies) completed in January 2014 and results were published in 2014.		Fifteen studies completed and published through special issues of scientific journals: Six dengue studies in Asia (India, Indonesia, Myanmar, Philippines, Sri Lanka and Thailand) completed in 2012 and published between 2010 and 2013; eight studies in Latin America and the Caribbean (Brazil, Colombia, Ecuador, Mexico and Uruguay for dengue studies and Bolivia, Guatemala and Mexico for Chagas disease studies) completed in January 2014 and published in a special issue of Transactions of the Royal Society for Tropical Medicine and Hygiene (Vol 109, No. 2, February 2015)	
Outcome 3: Enhanced and effective capacity, understanding, use, uptake, adoption, decision-making on improved adaptation and increased resilience to VBD-related vulnerabilities under climate change	By 2017, 10 countries adopted the methods and tools developed				
Complex social-ecological conditions of water systems in African drylands identified and characterized for their potential impact for VBDs; VBD risks assessed under various exposure conditions and vulnerability context; knowledge and scientific evidence generated about the	By 2014, research evidence provided	• The 5 research projects approved for funding received WHO Ethics Review Committee (ERC) approval and funds released for them. They are ongoing in 7 African countries (Botswana, Côte d'Ivoire, Kenya, Mauritania, South Africa, Tanzania and Zimbabwe) about malaria, schistosomiasis, HAT and RVF.		The 5 research projects approved for funding received WHO Ethics Review Committee (ERC) approval and funds released for them. They are ongoing in 7 African countries (Botswana, Côte d'Ivoire, Kenya, Mauritania, South Africa, Tanzania and Zimbabwe) about malaria, schistosomiasis, HAT and RVF.	

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
impact of climate change on health.			🟧		🟥
Decision-support processes and tools for health impact assessment	By 2015, processes and tools developed	• Evidence and knowledge to inform the development of decision-support process and tools for health impact assessment are currently being generated. By 2015, community adaptation strategies (including early warning tools) are expected to be developed.	🟩	Evidence and knowledge to inform the development of decision-support process and tools for health impact assessment are currently being generated. By 2015, community adaptation strategies (including early warning tools) are expected to be developed.	🟩
Capacity and network built for better management of climate and environmental related risks	By 2015, a community of practice established. By 2014, a community of practice established	• Community of practice established with engagement facilitated through a web-based knowledge-sharing platform, VBD-environment.org. One proposal development workshop was held in 2012. Two capacity building workshops held in 2013 and 2014. One online forum for data consultation held in the last quarter of 2014.	🟧	A web-based knowledge-sharing platform, VBD-environment.org, was Launched in July 2015	🟪
Outcome 4: National dengue control programmes in Latin America implement evidence-based, sustainable and effective community-based vector control strategies.Urban health approach developed	By 2014, scaling-up of dengue vector control developed in 4 Latin America countries	• Uptake and scale-up ongoing in Brazil, Uruguay and Colombia (2014-16), planned in Mexico (2015-16).	🟧	Uptake and scale-up ongoing in Brazil, Colombia, Mexico and Uruguay, with expected completion of research in 2016. Systematic reviews and research gap analysis outlined and prepared for 2016	🟧
Implementation research on productive dengue vector breeding sites and targeted interventions	By 2015, 4 country studies completed	• Dengue vector densities reduced to lower levels (measured through pupae indices in intervention and control areas). • Study portfolio delayed, to be completed during 2016.	🟧	• Dengue vector densities reduced to lower levels (measured through pupae indices in intervention and control areas). • Study portfolio delayed, to be completed during 2016.	🟧
Outcome 5: The application and usefulness of social entrepreneurship for the prevention and control of infectious diseases of poverty demonstrated and substantiated through research	By 2017, the application of social entrepreneur-ship for the prevention and control of infectious diseases of poverty shown effective & useful	• Heuristic value of social innovation and research programme established in collaboration with academic institutions (Oxford University, Cape Town U). http:healthinnovationproject.org	🟩	Initiative on social innovation in health established in collaboration with academic institutions (Oxford University, Cape Town U). http:healthinnovationproject.org	🟩

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
Landscape analysis of: i) existing social entrepreneurship initiatives for the prevention & control of infectious diseases of poverty,; ii) their success, challenges, and lessons learnt; and iii) overall social entrepreneurship stakeholder environment	By 2015, publication of a web-based report	• Landscape analysis completed but not yet published.		• Landscape analysis completed • Landscape analysis of social innovation in the United Nations system commissioned • Major publication on social innovation in health care delivery planned for 2016	
Concept paper and public health based framework related to the application of social entrepreneurship to the prevention and control of infectious diseases of poverty	By 2016, publication of report and peer reviewed journal articles	• Case study research under way.		• Case study research under way.	
Forum for social entrepreneurship on infectious diseases of poverty launched	By 2015, Forum held successfully	• Forum to be held in December 2015.		• Convening being prepared and to be Major Forum held December 2-4, 2015, in Annecy and at WHO, Geneva.	
Outcome 6: Countries using optimized implementation of vector control interventions based on scientific evidence on the impact of insecticide resistance, and better knowledge of burden and causes of residual malaria	• By 2017, recommendations and policies for better implementation of malaria control trough LLINs and IRS taking into account insecticide resistance evolution				
New scientific information on insecticide resistance mechanisms generated to fill critical knowledge gap	By 2017, publication of the study results in a peer review journal. By 2016, publication of the study results in a peer review journal	• Insecticide resistance mechanisms characterized for the insecticides used for indoor residual spraying (IRS) of insecticide and insecticide treated-nets (ITNs) in the main malaria vectors will be published by 2017.		• Insecticide resistance mechanisms characterized for the insecticides used for indoor residual spraying (IRS) of insecticide and insecticide treated-nets (ITNs) in the main malaria vectors will be published by 2017.	
Link between insecticide resistance mechanisms and malaria control failure estimated	By 2017, publication in peer review journal	• On track.			
New scientific information on burden and entomological, as well as social causes of residual malaria available	By 2017, publication in peer review journal. Policies and recommendations adapted.				

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
EXPECTED RESULTS 2012-2013					
Outcome 1: Promotion and adoption of vector control methods and strategies in African, Latin-American and Asian DECs	By 2015, at least 32 countries tested and/or adopted vector control methods and strategies for HAT, malaria, dengue or Chagas				
Improved tsetse fly control methods and strategies	By 2012, HAT vector control operations developed and tested in 5 African countries	Two projects out of the 3 completed and the third to be completed in 2013; tsetse fly trapping methods optimized and standardized in 8 African countries and HAT control decision support system developed		Three projects completed in 9 African countries (Angola, Burkina Faso, Côte d'Ivoire, DR Congo, Kenya, Malawi, Sudan, Tanzania and Uganda) for six tsetse fly species and results published: Tsetse fly trapping methods optimized and standardized and HAT control decision support system developed and tested	
Glossina genome data generated and made available for exploitation	By 2013, Glossina genome data generated and exploited in Africa	Glossina genome project completed and data made available to the public		Glossina m. morsitans genome project completed in 2012: Genome sequence submitted to Science Magazine in 2013 and data made available to the public (web-based: GenBank and VectorBase))	
Best practice guidance for deployment of GM mosquitoes	By 2013, 7 guidance principles documents generated and evaluated in 6 DECs and made available to the public	Five documents out of 7 fully finalized and a GM guidance document to be finalized in 2013		Five best practices guidance documents finalized in 2012 and the guidance document for testing GM mosquitoes for efficacy and safety and addressing ethical, social, cultural and regulatory issues was finalized in 2013	
Improved methods for packaging integrated malaria vector control approaches	By 2013, 3 African countries in which an evidence-based approach for integrated malaria vector control has been developed and evaluated	On track, final report due by April 2013		Project completed in 2013: Significant findings of value to improve the implementation of vector control interventions have been achieved in Cameroon, Kenya and Mali	
Improved methods for targeted and integrated dengue vector control	By 2012, 4 Asian and Latin American countries in which targeted and integrated dengue vector control	Project completed in Asia and final report for Latin America due by April 2013		Project completed in two Asian countries (Thailand and Viet Nam) in 2012 and three Latin American countries (Guatemala, Brazil and Mexico) in 2013: It provided proof-of-principle of the efficacy of the combined strategy in reducing vector densities	

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
	strategies have been developed and evaluated		(orange)		(purple)
Methods for preventing reinfestation by triatomine bugs developed and evaluated	By 2012, 4 Latin American countries in which improved reinfestation prevention measures have been developed and evaluated	Delayed but made significant progress, final report due by April 2013	(orange)	Project completed in 2013 in Argentina, Bolivia, Brazil and Paraguay and results published: It provided a good understanding of the re-infestation of houses by triatomine bugs, mainly due to residual populations after insecticide spraying and highlighted the need for insecticide resistance monitoring	(purple)
Strategies for complementary or alternative Chagas disease vector control measures	By 2013, 4 countries in Latin-America in which complementary or alternative Chagas disease vector control measures have been developed and evaluated	On track, final report due by April 2013	(green)	Project completed in 2013 in Argentina, Bolivia, Colombia and Panama and results published: It showed that PermaNet 3.0 combination Net is a promising complementary strategy for triatomine control ; and that fenitrothion is a good alternative to pyrethroids against deltamethrin-resistant bugs for house spraying	(blue)
Outcome 2: Policies and strategies influenced by new evidence from community-based vector control					
Cross-disciplinary research framework for eco-bio-social (EBS) studies and toolkit for EBS research	By 2014, EBS framework developed in Latin-America (by 2011 in Asia)	Research framework and EBS toolbox developed, widely used and published for the Asian context, multi-country research initiative completed in 2011, widely disseminated with respect to its use for Integrated Vector Management (IVM) and published in 2013. Framework developed and toolkit used in research initiative in Latin America and the Caribbean since 2009. To be published during 2013 / 2014	(green)	Research framework and EBS toolbox developed, widely used and published for the Asian context, multi-country research initiative completed in 2011, widely disseminated with respect to its use for Integrated Vector Management (IVM) and published in late 2012 and widely disseminated in 2013. Framework developed and toolkit used in research initiative in Latin America and the Caribbean since 2009. To be published during 2013 / 2014	(green)
Evidence for EBS approach to strengthen vector-borne disease control	By 2014, 15 studies completed and published	Six studies in Asia published between 2010 and 2013, 9 studies in Latin America to be completed before January 2014 and to be compiled for publication during 2014	(light green)	Six dengue studies in Asia (India, Indonesia, Myanmar, Philippines, Sri Lanka and Thailand) completed in 2012 and published between 2010 and 2013; Eight studies in Latin America and the Caribbean (Brazil, Colombia, Ecuador, Mexico and Uruguay for dengue studies and Bolivia, Guatemala	(light green)

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
				and Mexico for Chagas disease studies) completed in January 2014 and the results will be compiled for publication during 2014. A video has been produced to present the research during World Health Day 2014 (7 April) on disease vectors	
Sustainable Community of Practice of researchers in Asia and Latin America on dengue and Chagas disease	By 2014, at least 1 community of practice exists in each region	Asia Community of Practice developed during 2006-2011, transitioned into an Asia EcoHealth network with sustained funding. Latin America Community of Practice exists and is being further strengthened		Asia Community of Practice developed between 2006 and 2011, transitioned into an Asia EcoHealth network with sustained funding. Latin America Community of Practice exists and is being continually strengthened	
Outcome 3: Policies and strategies influenced by new evidence about climate and environmental change impact on vector-borne diseases	By 2017, 10 countries adopted the methods and tools developed				
Evidence of the effects of climate and environmental changes on vectors and vector-borne diseases	By 2014, research evidence provided	On track, 5 research projects approved for funding		The 5 research projects approved for funding received WHO Ethics Review Committee (ERC) approval and funds released for them. They are ongoing in 7 African countries (Botswana, Côte d'Ivoire, Kenya, Mauritania, South Africa, Tanzania and Zimbabwe) about malaria, schistosomiasis, HAT and RVF	
Decision-support processes and tools for health impact assessment	By 2015, processes and tools developed	On track, 5 research projects approved for funding		Ongoing, the 5 research projects approved for funding received WHO ERC approval and funds released	
Capacity and network built for better management of climate and environmental related risks	By 2014, 3 communities of practice established	On track, 1 proposal development workshop organized in 2012		On track, 1 proposal development workshop organized in 2012 and 1 capacity building workshop organized in 2013	
Outcome 4: Policies and strategies influenced by new evidence about community-based intervention (CBI) strategies for enhanced access to control interventions	By 2015, 9 case studies published on the uptake of CBI approach in various settings				

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
Assessment of CBI for strengthening primary health care in rural areas of Africa	By 2014, 6 studies published	On track for research portfolio on Community-Directed Interventions (CDI), slightly delayed with respect to now ongoing portfolio on CBI for Primary Health Care in 4 African countries		Research portfolio on Community-Based Interventions (CBI) ongoing in 4 African countries (Burkina Faso, Malawi, Nigeria and Uganda). To be published during 2014	
Assessment of CDI in poorly served urban communities in Africa	By 2014, 4 studies published	Intervention research not pursued due to lack of funding, cross-site situation analysis on track, being prepared and publishable by 2014		Intervention research not pursued due to lack of funding, cross-site situation analysis on track, being prepared and publishable by 2014	
Assessment of CDI in nomadic communities	By 2014, 8 studies published	Intervention research not pursued due to lack of funding, cross-site situation analysis on track, being prepared and publishable by 2014		Intervention research not pursued due to lack of funding, cross-site situation analysis on track, being prepared and publishable by 2014	
Assessment of incentives for motivation and retention of community health workers	By 2012, 6 reviews / studies published	Delayed, 2 reviews and 1 multi-country study ongoing, to be completed by 2014		Realist review completed and published. Cochrane review initiated. Multi-country research ongoing (in DR Congo, Ghana, Senegal and Uganda), to be completed by 2014	
Repository of tools and resources for community health research, policy and practice	Web-based repository operational by 2012	Web-based repository operational by 2012 • Cancelled, not pursued due to lack of funding			
Outcome 5: An integrated Community Case Management of Fever strategy assessed and developed	By 2016, at least 2 countries adopting iCCM	Achieved for 2 countries, further uptake ongoing and supported through WHO-UNICEF Joint Statement on Integrated Community Case Management			
Treatment delivery model for prompt management of children with childhood infections by community care providers	By 2013, 6 studies completed as per the approved protocol	Achieved with major publication – Special Supplement of Am J Trop Med and Hyg 87 (No 5, 2012)		Achieved for 2 countries, further uptake ongoing and supported through WHO-UNICEF Joint Statement on Integrated Community Case Management and global meta-analysis of iCCM studies and their impact on all-cause mortality among children.	
Field-tested, community acceptable, safe and (cost-) effective treatment package for malaria	By 2013, 6 studies completed as per the approved protocol	Achieved with major publication – Special Supplement of Am J Trop Med and Hyg 87 (No 5, 2012)		Achieved in Burkina Faso, Ghana and Uganda with major publication – Special Supplement of Am J Trop Med and Hyg 87 (No 5, 2012)	

D.4   IIR performance against Performance Assessment Frameworks 2012-2015

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
EXPECTED RESULTS 2014-2015					
Objective 1: Facilitate Innovation					
1.1.5 Facilitate innovation to generate tools to achieve control programme objectives: i) awareness of specific gaps generated for funders, researchers and developers, ii) workable approaches (technologies, products, partnerships) identified and applied	By 2015, at least two approaches identified	• On target		• On target: 1) data-sharing in emergencies; 2) data-sharing platforms for TB, schistosomiasis; 3) NTD website • Achieved: Moxidectin transferred to not-for-profit organization for registration	
Objective 2: Sustain effectiveness of available interventions					
1.1.2 Integrated capacity building and research for Ivermectin resistance surveillance: i) Presence or absence of genetic correlates of suboptimal response of O. volvulus to Ivermectin established, ii) tool for surveillance iii) strategy approved, guidelines and training package for conduct of surveillance	By 2014, proof-of-concept in the lab of genetic markers of putative Ivermectin resistance. By 2015, tool for surveillance of resistance available	• Modified and merged with 1.1.4 (see below)*.			
	By 2015, tool for surveillance of resistance available				
1.1.3 Integrated capacity building and research for lab to field translation of putative resistance markers: i) capacities in DECs created (scientists trained, laboratories equipped), ii) putative resistance markers tested in the field	By 2015, at least two putative resistance markers tested in the field	• Cancelled* (Not Applicable - capacity building associated with modified project)			

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
1.1.4 Vulnerability to emerging drug resistance and its consequences for control programmes.Information on resistance of pathogens of tropical diseases to existing treatments and response options to inform control programme practice, research and funding decisions	By 2015, at least three adapted solutions generated.	• Modified and merged with 1.1.2 * on recommendation of ad hoc SWG meeting in 2014 - see 2017 target for new approach and deadlines			
	By 2017 genetic markers of response of O. volvulus to ivermectin assessed, transmission model developed	• On target		• On target	
Objective 3: Strengthen evidence base					
1.1.6 Knowledge to fill the gaps in control and elimination of tropical diseases: i) optimized, standardized methodologies to assess the effects of interventions, ii) databases from existing clinical trials generated and analysed to maximize the use of data and optimize the cost of clinical trials	By 2015, at least two optimized, standardized methodologies generated; one database developed	• On target – merged with 1.1.7*		• On target – merged with 1.1.7*	
1.1.7 Strengthen evidence-base for policy decision and programme implementation by maximising the utility of available data. Consolidated evidence platform necessary for WHO recommendations: evidence for policy recommendations including conclusions from efficacy and safety, as well as cost-effectiveness of interventions	By 2014, analysis of issues related to the availability, deployment and effectiveness of fluoroquinolones in tuberculosis delivered	• Modified and merged with 1.1.6*			
1.1.8 Safety data for policy decisions Optimise the acquisition and analysis of new safety data for policy decision and programme implementation	By 2015, birth defect data related to drug exposure analysed, data presented to WHO treatment guidelines committees.	• On target		• Delayed. Database finalized and ready for piloting but no data yet formally included. Sites expected to contribute new data in 2016 with first data analysis by end of 2016.	
	By 2015, at least one project for monitoring safety established in countries	• On target		On target. Study on PV In SMC completed, study on PV in MDA in preparation.	

Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
Objective 4: Optimize implementation					
1.1.1 Support adequate country response to epidemic challenges: evidence-based guidance for dengue outbreak detection and response	By 2014, field trials to test novel tools completed. By 2016, field trials to test novel tools completed	• On target. Retrospective study completed, prospective study to start		• On target. Retrospective study completed, prospective study underway	
1.2.1 Intervention and implementation research to inform policies for the elimination of visceral leishmaniasis Evidence generated to inform policies for the elimination of visceral leishmaniasis in the Indian subcontinent: i) cost-effectiveness of camp approach under programmatic conditions, ii) vector control and improved monitoring and evaluation toolkit, iii) methods to identify VL cases adapted to low-endemic areas, iv) cost and feasibility of using liposomal amphotericin B at peripheral health service level	By 2015, studies in Bangladesh, India and Nepal on case detection and case management completed. By 2016, studies in Bangladesh, India and Nepal on case detection and case management completed	• Delayed. Expected completion of studies and data analysis: 31 Dec 2016.		• Delayed but underway. Expected completion of studies and data analysis: 4Q2016.	
		• Cancelled. Output (iv) and proposed linked activities - based on resource and capacity availability			
1.2.2 Community-based scheduled screening and treatment of malaria in pregnancy for improved maternal and infant health (COSMIC)	By 2016, methods developed to inform stakeholders and secure commitment to facilitate policy and practice changes	• On target		• No-cost extension requested by consortium, potential delay to 2nd quarter, 2017	

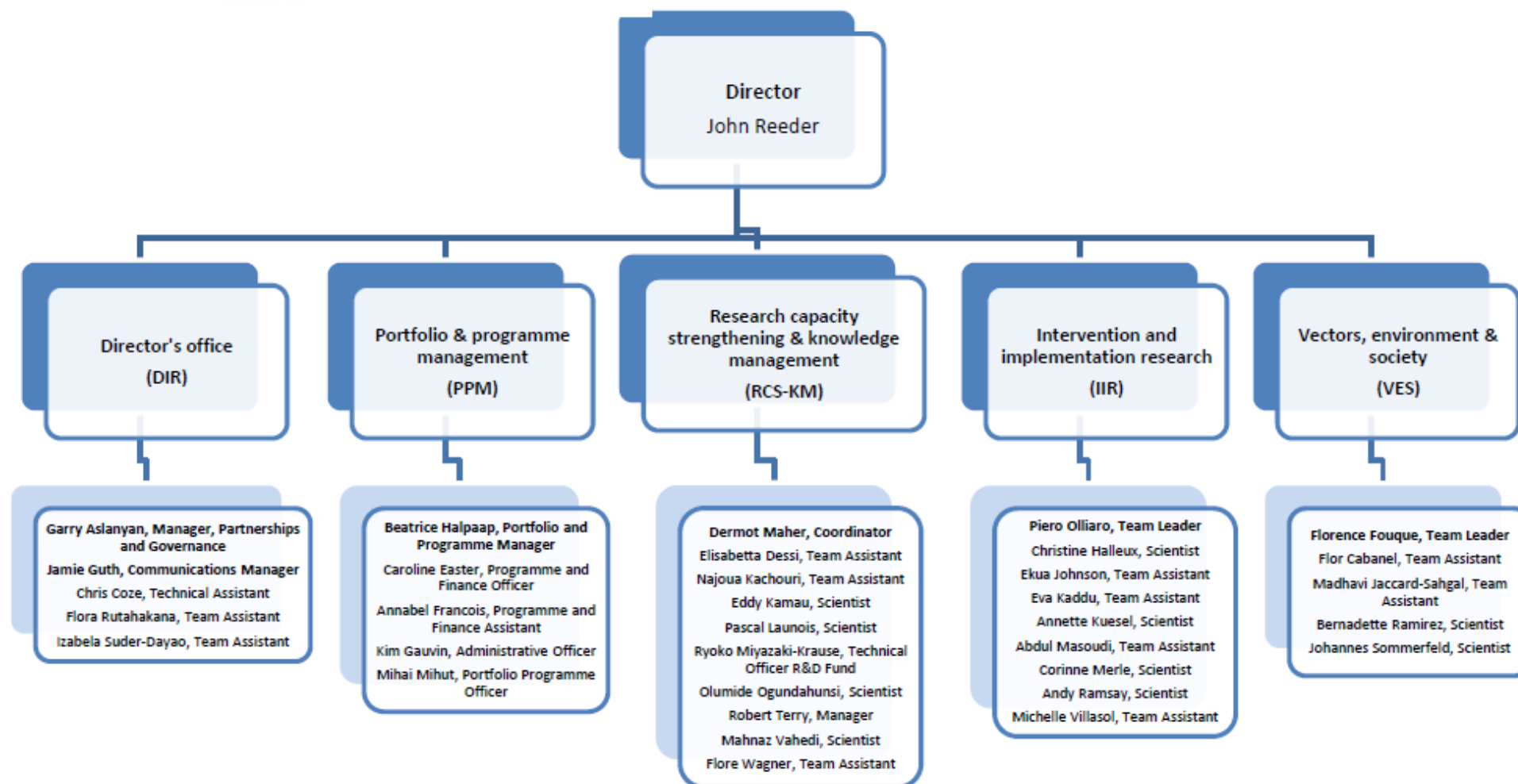| Expected results	Key performance indicators	Progress in 2014	Progress check 2014	Progress in 2015	Progress check 2015
1.2.3 Improved management of childhood febrile illnesses Evidence on improved management of childhood febrile illnesses: i) number of severe patients who respond immediately and can be adequately managed without referral, ii) evidence on when not to treat with an antibiotic, iii) evidence on reliability of RDT use in severe disease, iv) evidence for strengthening compliance with referral advice	By 2015, measurements on sensitivity, specificity of RDTs/microscopy for severe disease, and changes in RDT outcomes for patients evolving to severe malaria generated	• Indicator modified to reflect focus on febrile illnesses in young infants and evidence for antibiotic treatment: By 2017, evidence for antibiotics management. On target. • Cancelled: Output (i), (ii) and (iv) were dropped to free resources for output (iii) (febrile illnesses in young infants) per ad hoc SAG recommendation in February 2014.		On target.	
1.2.4 Structured Operational/ Implementation Research and Training Initiative (SORT IT). Outcome-oriented, policy-relevant, integrated operational/ implementation research and training that is embedded within the public health programmes of low- and middle-income countries designed and delivered for tuberculosis and other diseases	By 2015, at least 20 integrated operational/implementation research projects in countries	• Over 20 achieved by end of 2014 and going beyond for end of 2015.		• On track. • Over 140 operational research projects completed in all 5 regions (over 50 countries). Over 100 OR projects started in 2015 in over 25 countries (all 5 regions).	

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
EXPECTED RESULTS 2012-2013					
Outcome 1: Dengue: evidence-base for refined new case classification and improved surveillance and outbreak response in countries used by disease endemic countries (DECs)	By 2015, new and innovative tools for the control of dengue in a global context applied				
Revised dengue case classification including warning signs and improved definition of "probable dengue"	By 2013, supporting evidence developed	STAC in 2011 did not approve funds; project only partly executed (7 countries); relevant report will be prepared; rest will be incorporated into research areas below, but results will only be available at the earliest in 2014			
Evidence-based guideline for dengue surveillance	By 2014, integrated dengue surveillance model package developed	On target		On target	
Evidence-based guidance for dengue outbreak response	By 2014, field trials to test novel tools completed	On target		On target	
Quality-assured research findings on dengue surveillance and outbreak response	By 2014, field trials will have a monitoring and quality control data management system implemented	On target		On target	
Consensus agreement of major stakeholders	By 2015, consensus agreement on strategies reached through consultation process	On target		On target	
Outcome 2: Visceral leishmaniasis (VL) elimination in South-East Asia; case management, vector control and diagnostic policies adopted	By 2015, at least 40 districts in Bangladesh, India and Nepal applying VL elimination policies, methods and guidelines				
Case detection at scale evaluated	By 2014, evaluation completed	On target		On target	
Vector control at scale evaluated	By 2014, evaluation completed	On target		On target	

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
Feasibility of single-dose AmBisome® treatment determined	By 2014, study completed and results published	Bangladesh: On target; India: delayed due to Indian approval process		Bangladesh: On target; India: delayed due to Indian approval process	
Outcome 3: Scaling-up access to TB diagnosis and treatment, particularly for poor and marginalized populations	Global recommendations implemented by countries				
Implementation research undertaken during scale-up of new TB diagnostics	By 2013, 5 implementation/operational research projects supported	• This area of work has been substantially revised • A series of studies completed. This area of investigation is incorporated in ongoing SORT-IT activities. • Biobanks transferred.			
Outcome 4: Performance and quality of malaria diagnostics evaluated and guiding country policies	By 2015, at least 8 countries implementing malaria RDT lot testing				
Malaria RDT quality and performance assessed	By 2013, evidence provided	Round 4 completed in 2012; round 5 transitioned to WHO/GMP			

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
PROJECTS IN TRANSITION 2012-2013					
Outcome 1: Moxidectin registration, availability in concerned countries and recommendations for use	By 2016, data from Phase 3 study used by potential interested manufacturers to register the drug for onchocerciasis treatment				
Completion of moxidectin phase 3 trial and transition to partner for registration	By 2012, completed Phase 3 clinical trial and partner identified	Primary outcomes of Phase 3 study analysed and reported in 2012. Study close-down in 2013; search for partner for transfer under way		Phase 3 study on target as per transition plan presented to STAC35 (2013): Study completed in countries. Primary efficacy and safety analyses completed and presented to expert review committees (2012 and 2013) and at international meetings (2013). Papers in preparation, including secondary analyses. • Discussions with potential licence holders ongoing.	
Outcome 2: Adoption and implementation of evidence for policy internationally by TB/HIV high-burden countries	By 2014, WHO guidelines would reference the conclusions of this study when recommending timing of ARV treatment in TB/HIV co-infected patients				
Completion of TB/HAART clinical trials in South Africa, Tanzania, Uganda and Zambia	By 2013, enrolment and follow-up completed with substantial contribution from involved countries	On target: enrolment stopped in March 2012 (follow-up completed end of March 2013)		On target as per transition plan presented to STAC35 (2013): Study completed in countries. Analyses completed and submitted to DSMB; paper to be prepared in 2014.	
Completion of 4FDC clinical trial in Ethiopia & Nigeria	By 2011 complete recruitment & follow-up; report by 2012	Delayed due to financial gap: gap filled now by countries, report due 3Q13		On target as per transition plan presented to STAC35 (2013): Study completed in countries. Results support WHO recommendations. Paper prepared and submitted.	
Gatifloxacin development to shorten the duration of TB treatment to 4 months	By 2012, data analysed and results available	Delayed: financial gap successfully filled in 2012; on target now with revised timelines for database and report in 2013		On target as per transition plan presented to STAC35 (2013): Study completed in countries (Benin, Guinea, Kenya, Senegal, South Africa). Primary efficacy and safety analyses completed and presented at international meeting and to WHO/Global TB Programme (GTB) for consideration in policy formation; paper submitted. Papers on secondary analyses in preparation.	

Expected results	Key performance indicators	Progress in 2012	Progress check 2012	Progress in 2013	Progress check 2013
Outcome 3: Rectal artesunate in policy and practice, registration and recommendations for use	By 2013, 3 countries using evidence on rectal artesunate in policy and practice				
Solid scientific evidence on efficacy and safety with pre-referral artesunate	By 2013, evidence provided	Partnership for transfer of responsibility for approval and availability identified in 2012; on track for 2013		Completed: • Rectal artesunate in WHO malaria treatment guidelines. • Legal agreements signed for transfer of responsibility to third parties for regulatory approval and availability in countries.	

Annex E   Current structure of the Secretariat

Director
John Reeder

Director's office (DIR)

Garry Aslanyan, Manager, Partnerships and Governance
Jamie Guth, Communications Manager
Chris Coze, Technical Assistant
Flora Rutahakana, Team Assistant
Izabela Suder-Dayao, Team Assistant

Portfolio & programme management (PPM)

Beatrice Halpaap, Portfolio and Programme Manager
Caroline Easter, Programme and Finance Officer
Annabel Francois, Programme and Finance Assistant
Kim Gauvin, Administrative Officer
Mihai Mihut, Portfolio Programme Officer

Research capacity strengthening & knowledge management (RCS-KM)

Dermot Maher, Coordinator
Elisabetta Dessi, Team Assistant
Najoua Kachouri, Team Assistant
Eddy Kamau, Scientist
Pascal Launois, Scientist
Ryoko Miyazaki-Krause, Technical Officer R&D Fund
Olumide Ogundahunsi, Scientist
Robert Terry, Manager
Mahnaz Vahedi, Scientist
Flore Wagner, Team Assistant

Intervention and implementation research (IIR)

Piero Olliaro, Team Leader
Christine Halleux, Scientist
Ekua Johnson, Team Assistant
Eva Kaddu, Team Assistant
Annette Kuesel, Scientist
Abdul Masoudi, Team Assistant
Corinne Merle, Scientist
Andy Ramsay, Scientist
Michelle Villasol, Team Assistant

Vectors, environment & society (VES)

Florence Fouque, Team Leader
Flor Cabanel, Team Assistant
Madhavi Jaccard-Sahgal, Team Assistant
Bernadette Ramirez, Scientist
Johannes Sommerfeld, Scientist

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