Prioritising multi-sector collaborations in the funding of NTD programmes

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This briefing paper summarises the (lack of) empirical evidence for the benefits and risks of promoting multi-sector collaborations, in the funding of programmes against Neglected Tropical Diseases (NTDs). It also proposes a framework, that highlights factors commonly cited as theoretically important to the success or failure of collaboration.

Background

The science: multi-sectoral origins of NTDs

NTDs are a diverse group of communicable diseases that disproportionately affect those living in with poverty. (1) They are ‘tropical’ in being concentrated amongst poor populations in tropical and sub-tropical geographies. They are ‘neglected’ in that much of their disease burden could be addressed using existing tools and approaches, yet they have historically received much less resources and attention than the magnitude of suffering would justify. NTDs affect more than 1 billion people. (1–4)

Both transmission risk and susceptibility are poverty-related. (5) Transmission is highest where there is high exposure to the vectors, vehicles and reservoirs of NTDs – mosquitos and sand-flies, contaminated food, water and soil, and infected animals or humans. The risk of such exposure is associated with poverty. Furthermore, other poverty-related conditions render an individual more susceptible to developing disease after an exposure. For example, the vicious cycle between malnutrition and infectious disease is well established, (6,7) and may be important in soil-transmitted helminthiases. (8)

These poverty-associated causal pathways often fall directly under the remit of non-health sectors. For example, the influence of water, sanitation and hygiene (WASH) and agricultural sectors on water-borne and vector-borne exposures, (8,9) or the education and housing sectors on direct (person-to-person) exposure. (10) Regardless of causal pathways, other sectors may also possess efficient means of addressing NTDs. For example, the education-sector may assist in mass drug administration targeting school-aged children. (11) Interventions to control NTDs may be of interest to other sectors due to their potential to improve educational outcomes, as well as agricultural and worker productivity. (12,13)

Overview

- Neglected Tropical Diseases are diseases of poverty that primarily affect populations in (sub-)tropical areas, can be controlled with existing knowledge and technologies, but remain neglected relative to the burden they cause. They are typically infectious diseases.
- Most guidance and policy-making bodies recommend multi-sectoral collaboration to control NTDs. They cite the multi-sectoral root causes of NTDs, including their association (by definition) with poverty.
- However, there is very little evidence comparing multi-sectoral approaches with alternatives (e.g., single-sectoral). Many case studies exist, but authors are unable to attribute successes to multi-sectoral collaboration (vs other programme features).
- Comparative evaluation efforts are needed, in order for multi-sectoral approaches to NTDs to be evidence-based policy rather than dogma.
- Until the empirical evidence is clearer, funders should prioritise multi-sectoral approaches where the theoretical fit is strongest. To this end, this paper provides a framework of factors commonly cited as theoretically important to success or failure.
- This fit is not immutable. Funders should consider the implementing stakeholders’ capabilities and willingness to modify the status of success and failure factors through appropriately designed efforts.
The policy: current approaches to NTD control
A multi-sectoral approach to NTD control has been prominent since the establishment of WHO’s NTD-control department in 2005. (14) Three of the five WHO-recommended public health strategies are explicitly multi-sectoral:

- **Vector** control and **pesticide** management;
- Safe drinking-water, basic **sanitation** and **hygiene** services, and **education**;
- **Zoonotic** disease management (“veterinary public health”).

This multi-sectoral approach is supported by a “focus on populations and interventions rather than specific diseases”, (15) and reaffirmed in the “social determinants of health” language of the World Health Assembly’s 2013 resolution on NTDs, (2) and the strategies in the current WHO roadmap. (16)

The opportunity: proposed/future approaches
NTDs remain a global priority, embedded in Target 3.3 and Indicator 3.3.5 of the UN Sustainable Development Goals. (17) Major donors have also recently renewed their support. (18)

With the development of a new 2030 WHO Roadmap on NTDs underway, (3) it is an opportune time to consider the strength of evidence for multi-sectoral approaches. Early indications of the strategic direction indicate that NTD control efforts are seen to remain dependent on action in sectors beyond health. (4)

**Figure: Schistosoma mansoni trematodes, a parasitic flatworm that causes schistosomiasis**
(CDC/Maddison, Courtesy: Public Health Image Library)

Issues
Lack of evidence for multi-sectoral collaboration
The multi-sectoral causal pathways involved in NTDs suggest that the involvement of multiple sectors may be required to combat them. Indeed, multi-sectoral approaches are believed to provide synergies in cost-effectiveness, since multiple interventions must be delivered to “neglected populations who nearly always suffer from several overlapping diseases linked to poverty”. (15)

However, there is little evidence of benefit and little acknowledgement of risks.

Collaboration involves a high degree of engagement. It implies that the actors share objectives, understanding of the problem, day-to-day responsibility for addressing these problems/achieving these objectives, and are jointly accountable for outcomes. Collaboration may be distinguished from more arms-length forms of engagement (such as coordination, cooperation, consultation, and communication).

In theory, collaboration risks incurring extra administrative and coordination costs, unclear or overlapping responsibilities and diluted accountability, and the potential for conflict where preferred objectives and means differ between stakeholders (particularly where they compete for similar resources). (19–23) Furthermore, the many statements from NTD organisations advocating for multi-sectoral collaboration suggest that such collaboration is not yet common practice. (15,24) Rather, mass drug administration remains the major focus of NTD programming. (3,8,9)

We conducted rapid evidence reviews of multi-sectoral collaborations in the NTD, WASH, nutrition, education, and maternal & child health sectors. ¹

We found no publications directly comparing multi-sectoral with alternative approaches (i.e., what incremental impacts collaboration had, over each sector pursuing objectives independently or with lesser forms of engagement such as consultation).²

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¹ Using PubMed and Google searches, including synonyms (e.g., multi-, inter-, cross-sectoral) and MeSH terms. We reviewed both peer-reviewed academic literature and grey literature. We also searched websites of key actors (e.g., WHO, DFID, USAID).

² Publications used weak study designs that did not define the counterfactual (comparator), did not control for confounding variables, or did so on a qualitative/expert-opinion basis only.
A framework to predict success or failure of multi-sectoral collaborations

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<th>Criteria</th>
<th>Success factors</th>
<th>Failure factors</th>
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| Effective in reducing the disease burden | - Consensus on priority areas (5,6,20,25)  
- Co-option of wide range of stakeholders and local partners (6,7,26)  
- Effective communication between sector managers (27–29)  
- Coordinated design, planning and monitoring of program (6,8,9,20,24,30)  
- Functional healthcare delivery system (31) | - Inadequate resourcing (32–34)  
- Lack of local commitment (6,25)  
- Too many sectors involved (9,35–37)  
- Lack of role clarity (27,38)  
- Lack of tangible “quick win” (34)  
- Irregular supplies (6) |
| Efficient in resource use | - Harmonization or pooling of funds/resources (8,30,35–37,39–48)  
- Ensure complementarity between existing initiatives (20,31)  
- Building new initiatives on existing programmes (49)  
- Integrated initiatives across multiple diseases (3) | - Weak coordination among stakeholders (34)  
- Unequal distribution of rewards or recognition to sectors involved (41,42,50)  
- Lack of staff incentives (27)  
- Presence of corruption (50) |
| Feasible to implement | - Availability of pre-existing organizations or stakeholders with well-defined roles (6,25,29)  
- A shared sense of identity (51)  
- Existence of influential community leaders/community engagement mechanisms that can encourage acceptance (29,49) | - Weak leadership or lack of political commitment (7,35,39,40,47,48,50,52,53)  
- Political divisiveness or instability (6,31,54)  
- Dominance of private sector actors with conflicting agendas (29,38) |
| Equitable in helping the most vulnerable | - Sustainable sources of funding (25,28,44,45)  
- Community involvement (46)  
- Intervention targeted to women and children (7,10,55)  
- Appropriate regulation of private healthcare sector (37) | - Not prioritizing vulnerable groups when setting targets (7,56)  
- Sectors dominated by for-profit entities (30,41,42)  
- Neglect of community inclusion in planning and implementation (43,46)  
- Poor communication and coordination (6)  
- Lack of standardised indicators for evaluation (51), fragmented monitoring and accountability (8,24,30,35,43,48) |
| Sustainable over time and resilient | - Macroeconomic stability (27,28,39,40,47,48) and consistent funding (26,31,57)  
- Cross-country political engagement and funding commitments (28,50,54,58)  
- Performance-based funding (29)  
- Good governance (30,36,47) and institutional capacity (44,46)  
- Technical assistance from overarching bodies/international agencies (6,26,30,31,35–37,57)  
- Gradual and effective scale-up/expansion of the multi-stakeholder network (49,53) | - Inadequate resourcing (32–34)  
- Lack of local commitment (6,25)  
- Too many sectors involved (9,35–37)  
- Lack of role clarity (27,38)  
- Lack of tangible “quick win” (34)  
- Irregular supplies (6) |
| Transparent to support learning and accountability | - Preestablished mechanisms for monitoring and evaluation (29)  
- Regular rhythm of reporting, stakeholder meetings, and communication (8,24,44,52,53)  
- Joint information dissemination (24,28,35–37,44)  
- Independent/sector-neutral oversight and evaluation (56) | - Presence of corruption (50)  
- Low availability of utilisation data across different sectors (56)  
- Delays in reporting and evaluation (51,53) |

- **Grey literature typically cited program logic** based on the multi-sectoral origins of NTDs in order to justify multi-sectoral collaboration, or simply asserted the importance. (15,16,59–61)

- **Academic literature typically reported case studies** of “successful” individual multi-sectoral collaborative efforts, along with author commentary based on expert judgement (which invariably extolled the virtues of collaboration). (43,55,56)

**In essence, the available evidence is not able to reliably attribute observed effects specifically to multi-sectoral collaboration**, rather than to the impacts of programmes generally. There was also striking lack of comment on the costs and risks associated with collaboration.5

**Framework: good fit for multi-sectoral approaches**

Without evidence from appropriately designed studies, decisions on when to prioritise multi-sectoral collaborations must currently be made on the basis of expert opinion and (theoretical) programme logic (particularly where non-health sectors hold responsibilities over the mode of transmission, e.g., water-borne, or susceptibility to disease, such as for nutritional status).

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3 These criteria are based on commonly used criteria in health services evaluation, and DFID’s stated Responsibilities and Priorities.

4 Value for money relative to opportunity cost.

5 E.g., the WHO Global Plan to Combat Neglected Tropical Diseases 2008-2015 proposed “intersectoral approaches” as a “strategic area for action”. However, the plan simply restates the “need for an intersectoral and interprogrammatic approach” as the “main challenges” to achieving this.
We propose a framework of commonly cited factors, to help identify where a multi-sectoral approach is most likely to yield benefits that warrant the risks.

This framework is based on:
A. Literature on the use of multi-sectoral collaborations for NTDs, WASH, education, nutrition, and maternal & child health sectors.
B. Case studies of multi-sectoral collaborations to control the 20 WHO-designated NTDs, using publicly available information.

Opportunities

1. Informing the design of multi-sectoral collaborations
   Multi-sectoral collaborations should identify the success and failure factors most critical to their context, and ensure programme plans give due regard to any opportunities to leverage success factors and mitigate failure factors.

The importance of each success and failure factor identified in the framework is likely to vary depending on both the country-context and the particular NTD(s) targeted. For instance, while macroeconomic stability is likely to be a country-specific factor held in common across NTD programmes within that country, the ability to build new initiatives on existing programmes will depend on the specific disease.

The factors also vary in the ease with which they may be addressed by appropriate programme design and execution. For example, it may easier to ensure that mechanisms for monitoring and evaluation are established prior to roll-out, while it may be difficult to ensure appropriate regulation of the private healthcare sector.

2. Informing prioritisation of funds
   Funders should ensure that investment priorities/decisions are informed by appraisal of proposed plans to address success and failure factors.

Stakeholders may vary in the degree to which they hold the attributes and capabilities required to leverage a success factor or mitigate a failure factor. For instance, a collaboration of small NGOs targeting a single NTD may be able to directly control “community inclusion in planning and implementation”, but may lack the scale and resources necessary to ensure the existence of “functional healthcare delivery system”. This applies to both the implementing stakeholders involved, as well as funders involved (e.g., a large and geopolitically powerful funder may be able and willing to shape “cross-country political engagement and funding commitment”).

3. Targeting investments in evidence generation
   The proposed framework is intended to be a starting point for further evidence generation. It relies on low-grade evidence, collected by a desk review. In the available literature, the attribution of benefits and risks to multi-sectoral collaboration was typically based on expert opinion and current understanding of the biological causal pathways for NTD transmission and susceptibility.

The framework should be validated with the key stakeholders in multi-sectoral NTD collaboration. Remaining areas of contention and uncertainty should serve as a list of priority areas for further evaluation (and, ideally, experimental research). This research could serve to
A. Verify the causal relevance of identified factors to multi-sectoral collaborations against NTDs.
B. Quantify the relative importance of factors as contributors to programme success/failure.

Conclusions

Multi-sectoral collaborations against NTDs are commonly advocated, but lack a robust evidence-base to identify when benefits outweigh the risks. The framework proposed here highlights commonly cited factors believed to be associated with success or failure. After validation with stakeholders, it could inform priorities for further empirical research, and be refined using the evidence generated. It may also be useful in guiding the planning of collaborations, by identifying what enabling success factors and challenging failure factors may need to be addressed. Funding prioritisation may then be informed by an appraisal of the strength of these plans (and the implementers’ ability to execute them), in relation to the success/failure factors relevant to the context in question.
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