Lessons from working across public health programs and a proposal for how to facilitate further cross-program collaboration to achieve NTD goals

Authors: Anastasia Pantelias*[1], Alan Brooks[1], Julie Jacobson[1]

Author Affiliations: *[1]Bridges to Development, Seattle, WA, USA & Geneva, Switzerland*

Abstract

There has been a consistent call for integration in public health programs to achieve greater impact and increased efficiency. Neglected Tropical Diseases (NTDs), a set of 20 diseases that collectively affect over 1 billion people worldwide, represent an opportunity to explore integration. Despite their public health burden, NTDs are often underfunded and overlooked and, therefore, programs need to maximize efficiency and cost-effectiveness to reach their goals. One potential means to do this is to work with other public health programs or other sectors outside of health such as water, sanitation and hygiene, agriculture, or education. Although increased integration is recognized as a key component to reaching the new 2030 goals for NTDs, moving from idea to practice has been challenging with few examples of successful, sustained integration across programs. In this paper, we examine several cases studies of integration to extract lessons learned which can guide future integration efforts. We apply these lessons to propose a process that can support conversations at the program level to identify and develop potential new, mutually-beneficial integration opportunities.

Introduction

Integration is an active topic of discussion and debate discussed across all heath sectors. Breaking down silos among health programs can allow for those programs to learn from each other, leverage synergies, and increase the effectiveness and reach of scarce resources. Most importantly, it enables programs to take a holistic approach to communities; taking into account how individuals think about their own health and putting people at the center of programs. Global policies such as the call for Universal Health Coverage (UHC) and the Sustainable Development Goals (SDGs) provide an imperative for countries to push towards greater integration. More recently, the COVID-19 pandemic has amplified calls for integration as countries and the global health community seek ways to mitigate the effects of the global crisis on the overall health of vulnerable populations and stretch resources in the face of significant re-direction.

The Neglected Tropical Diseases (NTDs) are defined by the World Health Organization (WHO) as a collection of twenty diseases [1–3] grouped together due to their often chronic, disfiguring and stigmatizing impact, their geographic overlap, and their close association with poverty. In many areas, NTDs perpetuate the cycle of poverty due to their significant negative impacts on individuals' health and quality of life including their ability to attend school and work and achieve or maintain financial stability. NTD programs have been historically under-funded and, therefore, optimizing the cost-effectiveness of programs has been critical. In many ways, NTDs represent unique opportunities to integrate within the broad NTD program. In addition, there are opportunities to integrate with other health programs, such as malaria, which share approaches, target populations, or both.[4–6] Lastly, there are opportunities to integrate with other sectors such as water, sanitation, and hygiene (WASH), agriculture, or even education.[7–9] Because of these opportunities, and the realization that many NTDs will not reach their goals if they remain siloed, the need for integration across sectors and into national health systems is highlighted as a cross-cutting theme in WHO's NTD 2030 Roadmap titled '*Ending the Neglect to Attain the Sustainable Development Goals*' which was launched in 2021. According to the Roadmap, meeting the 2030 targets for NTDs will require a renewed emphasis on integration of activities at several levels: leveraging interventions or delivery platforms relevant for several diseases (i.e. integrating the skin NTDs or the preventive chemotherapy (PC) NTDs), mainstreaming into national health systems in the context of achieving universal health coverage, and coordinating with other programs, such as malaria, and sectors like WASH and One Health to augment and sustain impact.[10]

However, despite the long-held assessment that integration among NTDs, between NTDs and other health programs, or between NTDs and other sectors is a noble goal, putting the idea into action remains a challenge. As the NTD 2030 Roadmap states, 'More radical change is required to integrate and mainstream approaches into national health systems and coordinate action across sectors. Such cross-cutting concepts are not new; they are outlined in various NTD plans, but their operationalization has been problematic in some instances.'(10) In this paper, we will present case studies to extract key lessons on the benefits and challenges of integration. From these lessons, we will propose a framework and process to support programs in their quest to better coordinate, collaborate, or integrate across programs and sectors in pursuit of reaching their goals.

Methods

To improve our understanding of the benefits and challenges associated with integration of NTD programs with other programs and sectors, case studies of integration were compiled from implementors. The set of case studies were selected to represent different settings and types of integration experiences. A more in-depth investigation was conducted through personal interviews and a focused literature review. Figures 1 and 2 depict the stories of four select case studies with two demonstrating integration between NTD and Malaria programs and two demonstrating integration between NTD programs and the broader health system. From the investigation of these case studies, and the focused literature review of both published and grey literature, themes emerged which can be applied to future cross-program or cross-sector collaboration efforts.

Fig 1. Graphic representation of NTD/Malaria case studies in Nigeria (top) and China (bottom). Illustration by Jen Fox, Atomic Fox Design

Fig 2. Graphic representation of cross-sector case studies in Vanuatu (top) and Venezuela (bottom). Illustration by Jen Fox, Atomic Fox Design
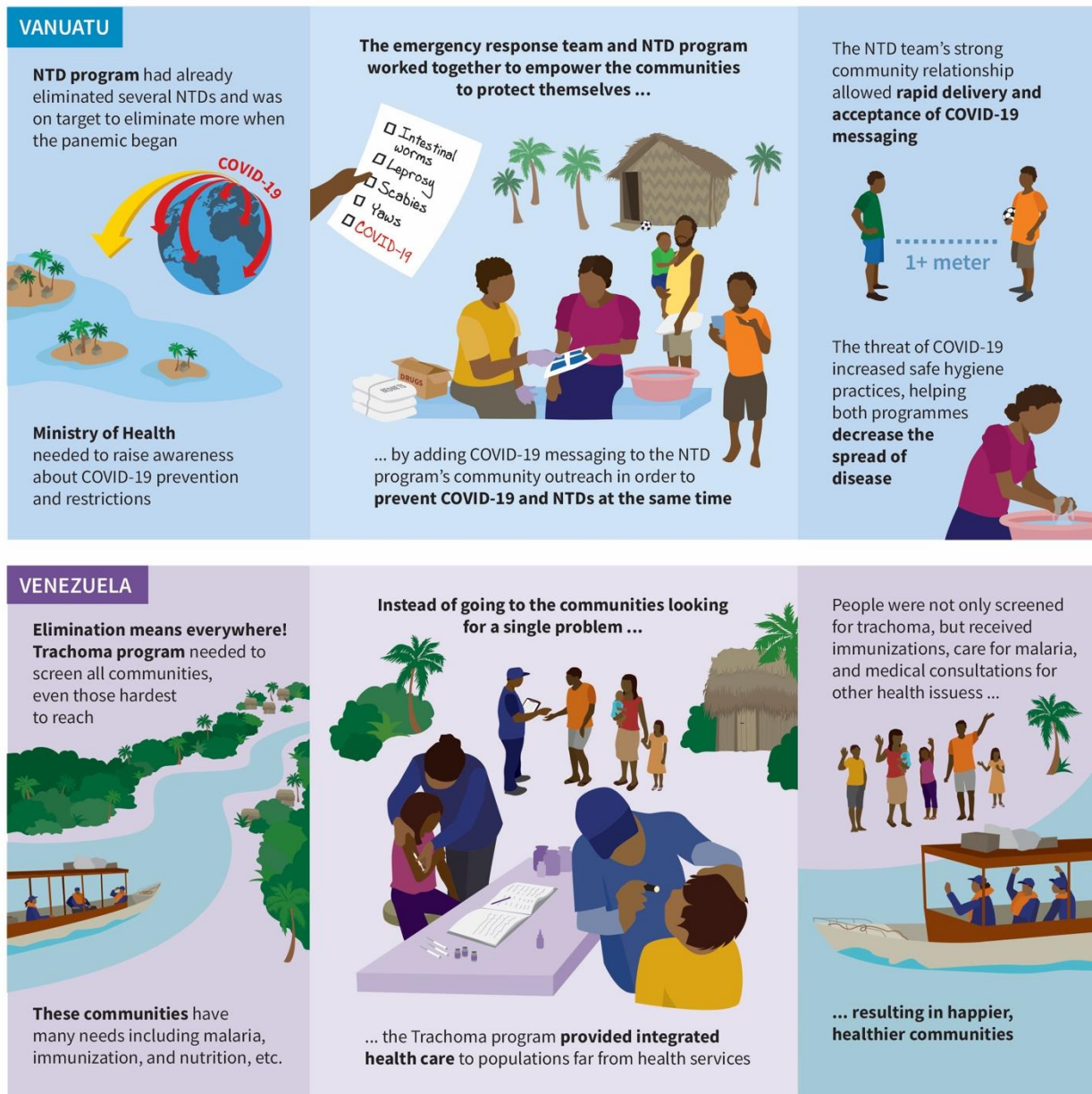

Breaking Down Integration

Integration is a simple term referring to what can be a complex undertaking. In our approach, integration is broken down into three dimensions. The first dimension focuses on *what* gets integrated. These can include activities within programs, activities in communities, or systems utilized by programs or the health system. A second dimension focuses on *where* programs can integrate, which depends on the geographic distribution of disease and the phase of each program. The final dimension focuses on the *how* of integration. This includes considerations such as the level and complexity of how programs work together.

Often times discussions of integration focus solely on delivery of interventions. However, there exist many opportunities across the spectrum of programmatic activities for programs to work together. For example, there may be opportunities to coordinate disease mapping activities, disease surveillance, other monitoring and evaluation activities, or advocacy, communications and social mobilization. Programs may also be able to leverage each other's systems for planning and logistics (fig 3). In many contexts, programs can consider opportunities for integration that go well beyond delivery. Taking advocacy as an example, at a national level, there are cases of parliamentary advocacy groups who have included both malaria and NTDs under their remit (e.g., the UK and Tanzania). At an international level, opportunities have been identified to bring these two disease communities together, for example, the proposed (albeit postponed due to the COVID pandemic) Commonwealth Heads of Government Meeting 2020 NTD & Malaria Summit.

Fig 3. Opportunities for integration exist across the spectrum of program activities

What can be integrated?
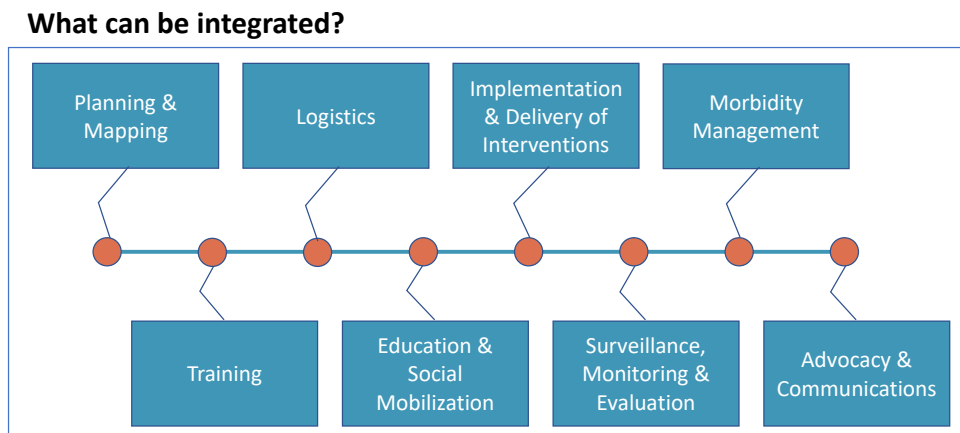
The Where

However, whether these opportunities exist depends on whether activities overlap geographically and the phase of each program in its lifecycle (fig 4). The goal for many NTDs is elimination, defined either by elimination of transmission or elimination as a public health problem. Similarly, most country malaria programs are also elimination programs. Therefore, these programs will go through phases from planning, to scale-up, to maintenance, to scale-down, and, finally, post-intervention monitoring. When thinking about opportunities for integration, if both disease programs have mapping needs across the same geographies, there may be ample opportunity to collaborate as mapping requires activities across a wide geographic range. However, as programs progress and get closer to their goals, endemic areas shrink which, in turn, shrinks the geographic overlap between programs. During this phase, opportunities to work together will decrease. Subsequently, once programs are in a post-intervention phase, opportunities to integrate broaden again as surveillance activities need to be implemented across a much larger geography to validate elimination and detect recrudescence. The challenge this presents for integration is that often programs are not in the same phase, in the same place, at the same time.

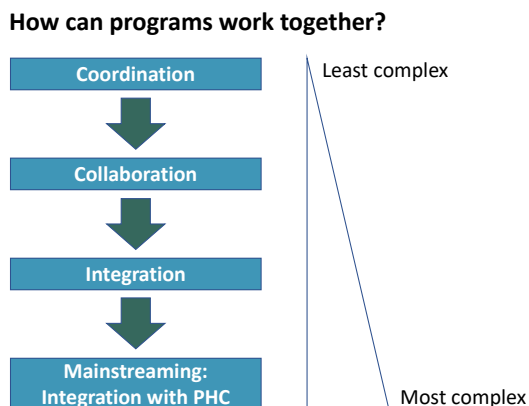Fig 4. Opportunities for integration differ across program phases

Where can programs integrate?

	Control: broad needs	Nearing elimination: targeted hot spot response	Post-intervention: broad surveillance need
Integrated Mapping	✓		
Co-delivery of interventions	✓	✓	
Integrated Training	✓		
Integrated education & social mobilization	✓		
Monitoring & Evaluation	✓		
Post-program surveillance			✓
Advocacy and communications	✓	✓	✓

The How

Although the term 'integration' is commonly used, it is important to define with more specificity what it means for how programs work together. Full integration of two health programs is a highly complex proposition as structural and procedural changes would be needed to truly integrate staff, activities, budgets, and lines of accountability. Consequently, full integration is often not the right solution. However, the optimal solution may be for two programs to work together on a less complex level, either pragmatically coordinating activities or collaborating on developing specific joint activities. There is a spectrum for how programs can work together, ranging from the relatively low complexity of coordination to the very high complexity of mainstreaming with the health care system (fig 5). How programs optimally work together needs to be context specific. Because full integration of programs is often not optimal or feasible, for the remainder of this paper, we will focus on opportunities for coordination or collaboration.

Fig 5. Programs can work together on several levels from low complexity to high complexity

How can programs work together?

Coordination → Collaboration → Integration → Mainstreaming: Integration with PHC

Least complex → Most complex

Key Lessons from Case Studies

In exploring case studies of past efforts at cross-program or cross-sector collaborations, several themes emerged related to why these efforts either succeeded, failed, or were not sustained long-term.

Key Articles

1. *Guidance for Evaluating Integrated Global Development Programs; FHI360;*

   https://www.fhi360.org/sites/default/files/media/documents/resource-id-evaluation.PDF

2. *Successful Integration of Insecticide-Treated Bed Net Distribution with Mass Drug Administration in Central Nigeria; AJTMH. 2006*

   https://doi.org/10.4269/ajtmh.2006.75.650

3. *From parasitic disease control to global health: New orientation of the National Institute of Parasitic Diseases, China CDC; Acta Tropical, 2020* *From parasitic disease control to global health: New orientation of the National Institute of Parasitic Diseases, China CDC - PubMed (nih.gov)*

4. *WASH and health working together: A 'how-to' guide for Neglected Tropical Disease programmes; WHO. 2019*

   https://www.who.int/water_sanitation_health/publications/wash-health-toolkit/en/

5. *Organization of oversight for integrated control of neglected tropical diseases within Ministries of Health; PLOS NTD. 2018*

   https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0006929

Identify Win-Win Opportunities

A core principle highlighted in every case study is that working together, on any level, from coordination to full integration, adds a layer of complexity. It is essential that the perceived benefit of working together outweighs the additional administrative and operational burden for both parties. In every case study, of both successful and unsuccessful integration attempts, a clear theme that emerged was the need to identify a win-win opportunity. In other words, both programs need a strong internal incentive to work together, so both programs need to understand and value the benefit of the collaborative effort to their program. If either program does not see how the collaboration will be mutually beneficial for them, or programs are not on equal footing in terms of added value for the extra administrative burden, the effort will ultimately fail. One way to address the challenge of finding the right balance between value and burden is to look for win-win opportunities with a low barrier to entry. Opportunities with low management complexity are more likely to work than those that require significant changes to program processes or structures.

As can be seen in the case study examples above, the win-win opportunity may be either *impact wins* or *operational wins*. In the Nigeria case study, both the malaria and NTD program saw program impact benefits. In the two states where the collaboration took place, LF elimination was achieved and malaria met their long-lasting insecticidal nets (LLIN) targets. Examples of operational wins are often related to making the best and most efficient use of scarce resources for both programs. This can create a robust shared incentive for collaboration. The China case study is an example where the integration of the malaria and schistosomiasis program allowed the programs to share resources; allocating them where they were needed most across both programs. In addition, the lessons learned from the schistosomiasis elimination program aided the malaria program in securing their first round of Global Fund resources and, now, China is close to being certified as having eliminated malaria.

Take a Community Lens

Cross-program collaboration can be most successful when it starts from the perspective of the communities both programs serve. Communities consider health in an integrated way and programs can have more impact if they reflect the way communities manage their own health needs. In the Venezuela case study on the trachoma program, in preparing to access remote and hard to reach communities the program knew they would not be as successful if they focused only on trachoma screening. Instead, they incorporated a community-centered approach which reflected the communities' wider health concerns, including trachoma, and provide an integrated set of priority health services. This approach has operational benefits in terms of efficient use of resources when accessing remote populations, as well as impact benefits related to the increased perceived value to the community of addressing several health issues at once resulting in greater community engagement.

Measure the Benefits

In some cases, collaborations have failed because the programs have not adequately measured or communicated the benefits, and measured benefits are often narrow in scope. While collaborations usually measure and report programmatic impact or cost-effectiveness analyses, they could also measure the positive effects on community members and community health worker time and satisfaction; an aspect which is often not considered. More case studies of cross-program or cross-sector collaborations are needed to better demonstrate the impact and operational benefits. Additional evidence can help secure the resources needed to work across programs, and more experience can

bolster the operational blueprint for successful collaborations. Lastly, measuring the benefits can have a significant effect on the sense of shared success between the collaborating programs, adding a stronger internal incentive to sustain the collaboration. Conversely, in cases where integration efforts have not been replicated or sustained, time was not taken or resources were not provided by the funding source to measure the benefits from the perspective of both programs in a meaningful way.

Secure Funding

Finally, a strong theme from the case studies is the need for a source of funding that is either flexible enough for use in collaborative activities or is specifically for collaboration across programs. In many of the cases studies, funding was the limiting agent or the main reason for lack of long-term sustainability or scale-up. Typically, programmatic funding (including resources for health workforce), whether it is domestic funding or from external sources, is tied to specific activities within specific programs and, consequently, programs have difficulty in supporting collaborative activities. In the Nigeria case study, The Carter Center specifically supported the collaboration. However, despite its success and despite the NTD and Malaria National Plan that was developed in response to its success, the collaboration was never scaled-up due to lack of funding and the absence of a champion for the movement. In short, when the funding for the collaboration ends, the collaboration often can no longer be sustained. It is imperative that country governments and external donors understand the potential benefits of cross-program or cross-sector collaboration and either provide resources for collaboration or the financial flexibility to support these efforts.

Key Learning Points from Review of Case Studies

1. *Successful collaborations are based on a win/win opportunity where both partners extract an equal value from the collaboration*

2. *The value of the collaboration needs to outweigh the additional administrative burden associated with the effort for all involved*

3. *Programs should take into account the perspective of the communities to define opportunities that reflect how they view their own health*

4. *The benefits, both operational and impact, need to be captured to sustain the effort and/or to advocate for further or sustained collaboration*

5. *Funding that is specifically for integrated activities or flexible enough to be used to support cross-program or cross-sector collaborations is needed*

6. *In some cases, the development of an investment case which described the benefits, potential impact, and resources required can be an effective tool to secure buy-in from leadership, sustain, and scale collaborations*

A Proposed Approach to Facilitate Cross-Program Collaboration

The review of integration case studies highlighted the importance of cross-program conversations focused on collaborations which have the potential to benefit both programs. Based on the key lessons from the case studies, we are proposing a process which can help facilitate cross-program collaboration. The process is supported by a set of flexible exercises which can be used in a workshop format to guide conversations between a country NTD program and other health programs or sectors. The specific purpose of this process is to identify impactful and feasible win-win opportunities.

Several of the following exercises were piloted with NTD program managers and NTD and Malaria implementing partners from Tanzania and Liberia in an effort to test the thinking behind the approach. Further, more rigorous testing and piloting is needed to refine the process.

Step 1: Landscape Program Interventions

Opportunities for cross-program collaboration are context specific based on the 'what' and the 'where' as described above for the specific countries and programs involved. As a first step, programs can map out the set of interventions used across the program areas including areas where certain activities are needed but the program may not be able to fully implement at the time. As an example, programs could define the interventions based in communities, health facilities, and hospitals or which focus on vectors, water, sanitation, and hygiene, or animals (fig 4). The exercise is meant to be flexible and to get programs to a common understanding of each other's key interventions and begin to highlight areas of overlap or high potential for further investigation.

Key questions:

*What are the priority interventions of my program?*

Where are these interventions targeted (health facility? Community? Animal? Vector? Etc.)?

What interventions are needed in the program but not yet implemented? Where are the gaps?

What interventions will be deployed in the future?

Fig 6. Example framework for mapping interventions across programs

Step 1: Landscape Program Interventions
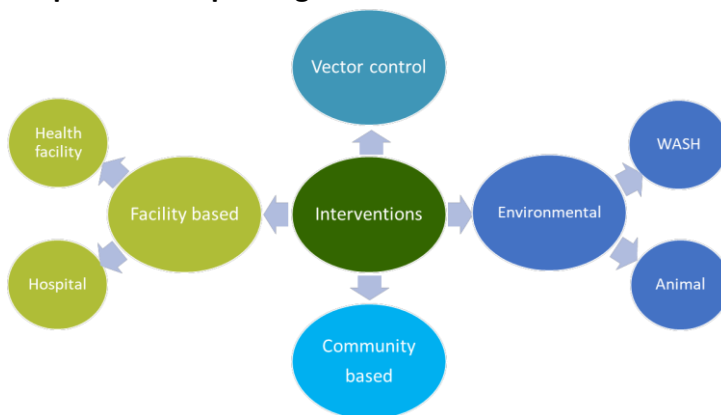
Step 2: Assess Priority and Strengths/Weaknesses

One potential avenue for a win-win opportunity is for programs to leverage each other's strengths. In the China case study, the malaria program leveraged the experience of the schistosomiasis elimination program when transitioning from a control to elimination program. In the Nigeria example, the malaria program leveraged the NTD program's community-based delivery experience while the NTD program leveraged the malaria program's experience in vector control. The next step in the proposed process would be for each program to assess both the priority and strengths and weaknesses of each area of their program building on the landscape completed in the previous step (i.e. community, health facility, hospital, vector, WASH, animal, etc. -based programming). The purpose of this conversation is to 1)

elucidate areas of shared priority, and 2) highlight where the strength of one program may be able to support a gap or weakness in another program.

Key questions:

For each bundle of interventions, which are high priority for my program?

Where is my program strong?

Where could my program benefit from additional expertise or support?

What do I need in my program but don't yet have?

Step 3: Change Perspectives and Define Opportunities

A key element of defining mutually beneficial collaboration opportunities is to understand the goals of the other program. Through this lens, one can better define the incentive for the collaboration. One-sided collaborations are not sustainable; both parties need to be incentivized. The third step in the proposed process asks each program to change their perspective and articulate how the collaboration supports the goals of the other program. The purpose of this conversation is to create shared incentives and define concrete win-win collaborations. It is possible that this process does not yield adequate incentives for both programs, meaning a collaboration may not be a viable solution at that time. Although collaboration may have many benefits, it is acknowledged that not all activities should be integrated and, sometimes, a mutually beneficial opportunity may not exist.

Key questions:

What are the goals of your program?

How can my program help your program reach those goals?

What would my program ask of your program? And what would my program offer to your program?

Step 4: Assess Impact

The ultimate goal of this process is to identify a potential cross-program or cross-sector win-win opportunity. Once identified, other tools are available to support programs in the detailed planning(11,12) and, therefore, this work has focused only on identification of the opportunity. However, as discussed above, it is important that the impact of the collaboration outweigh any additional administrative burden related to managing and implementing the joint activities. Therefore, the final exercise in the process is focused on articulating the benefits, both operational and impact, and assessing the feasibility or what it will take to implement the collaboration. This exercise can also help create the investment case for the collaboration if it is needed to secure resources or leadership support.

To assess operational or impact benefits, several of the frameworks presented by FHI360 in their *Guidance for Evaluation of Integrated Global Development Programs*(13) are useful resources which can be leveraged to guide the conversation not just in assessing the benefits of collaboration, but to set the participating programs up to capture these benefits during an evaluation of the collaboration. For

example, figure 7, re-printed from FHI360's document, summarizes the key aspects of the conversation required at this stage in the process which would focus on articulating the value for both programs on the operational side (i.e., cost-savings, time-savings, capacity strengthening, etc.) and on the programmatic impact side (i.e., improved health outcomes, increased reach of program or coverage of interventions, increased sustainability, increased acceptability by communities, etc.).

Key questions:

What operational benefits would our program get from this collaboration?
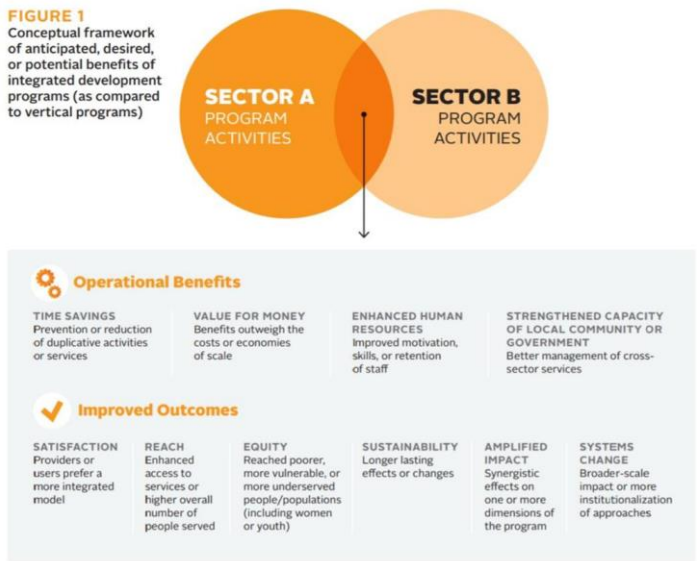
Is this collaboration cost-effective?

Does this collaboration use resource, either financial or human, more effectively?

Does this collaboration have a positive impact on the communities our programs are serving?

What programmatic impact could we see from this collaboration?

Fig 7. Identifying mutual operational and impact benefits of collaboration (from *Guidance for Evaluating Integrated Global Development Programs; FH!360. pg. 19.*
https://www.fhi360.org/sites/default/files/media/documents/resource-id-evaluation.PDF)

Step 4: Assess Impact

Step 5: Assess Feasibility

To assess feasibility, programs need to discuss what is required to implement the collaboration while taking into consideration the structure of both programs and how they will align and relate to each other, the scale of the collaboration and how many additional stakeholders will need to be consulted or involved, and funding including workforce issues and whether programs have resources for collaborative activities or if additional resources will need to be sought. At this point in the process, the conversation is not meant for in depth planning but to assess if the identified opportunity should be explored further or if there are any key roadblocks which would make the opportunity unlikely to be successful. If the

participants assess that the benefits likely outweigh any additional administrative burden (fig 8), additional resources are available to support in the more in-depth, tactical planning.(11–13)

Key questions:

*What structures or processes need to be in place to support this collaboration?*

How will we communicate with each other?

How will be collaboration be managed?

Do any other stakeholders need to be involved?

Fig 8. Exercise to assess impact versus feasibility. Only collaborations where the impact outweighs the additional administrative burden should be pursued

Step 5: Assess Feasibility
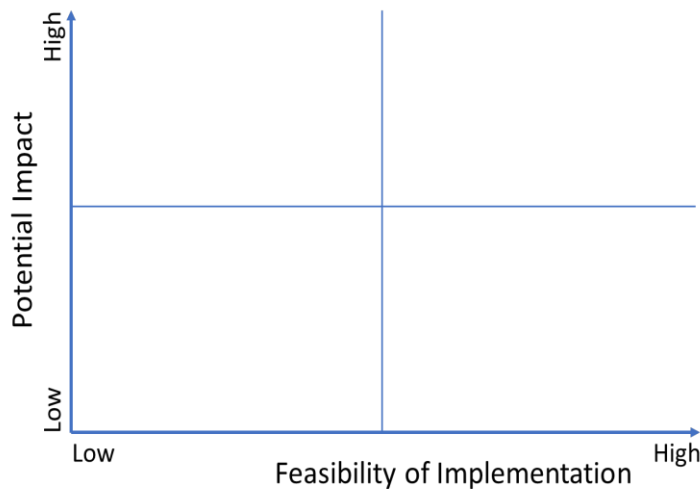
Conclusion

The ability for NTD programs to integrate or collaborate within their own programs or with other health programs or sectors will be important for reaching the NTD 2030 Roadmap goals. Increased collaboration will be necessary to maximize NTDs contribution to achieving the SDGs and the vision of UHC. However, as the investigation into several integration case studies have shown, calling for programs to integrate in order to increase cost-effectiveness and impact is the easy part. Putting it into action and sustaining the effort long-term is far more difficult.

During the exploration of the integration case studies, several key lessons emerged. The most critical lesson was that a successful collaboration requires a win-win opportunity; in other words, the collaboration must be a mutually beneficial relationship. Both programs need to be incentivized and, therefore, need to attach a value to the collaboration which outweighs the additional administrative burden of working together. Because of the importance of defining these win-win scenarios, we have proposed an approach to guide programs through a series of conversations with the goal of identifying concrete, mutually beneficial opportunities.

The philosophy behind this guided conversation-based approach is two-fold. First, although the outcomes of a collaboration are important, so is the process. A large part of building a successful collaboration that can be sustained over time is establishing strong and trusted relationships. Conversations as the ones described above can help build those relationships. Second, this process aims to give equal voice to both programs at the table. There are often power differentials at play between programs or sectors and this process aims to ameliorate those and help programs find common ground such that both programs benefit, ideally, equally from the collaboration. Utilizing a third-party facilitator can help ensure programs are on equal footing during the exercises. Third, the initiation of these conversations need to be driven by programs themselves. There needs to be an intrinsic interest and desire to find opportunities to collaborate if they are to be sustainable.

Finally, increasing collaborative efforts among and across programs and sectors would benefit greatly from more evidence that supports the call for integration. It is critical to build the evidence base that collaborative efforts result in greater impact and result in cost-efficiencies. Many collaborations fail when they don't take time or funding is not available to measure benefit for both programs. More case studies of successful cross-program or cross-sector collaborations are needed to make the case to leadership within countries and funders.

References

1. Standley C, Boyce MR, Klineberg A, Essix G, Katz R. Organization of oversight for integrated control of neglected tropical diseases within Ministries of Health. PLoS Negl Trop Dis. 2018 Nov 21;12(11):e0006929.

2. Chandler DJ, Fuller LC. The Skin-A Common Pathway for Integrating Diagnosis and Management of NTDs. Trop Med Infect Dis. 2018 Sep 10;3(3).

3. Hotez PJ. Mass drug administration and integrated control for the world's high-prevalence neglected tropical diseases. Clin Pharmacol Ther. 2009 Jun;85(6):659–64.

4. Knipes AK, Lemoine JF, Monestime F, Fayette CR, Direny AN, Desir L, et al. Partnering for impact: Integrated transmission assessment surveys for lymphatic filariasis, soil transmitted helminths and malaria in Haiti. PLoS Negl Trop Dis. 2017 Feb;11(2):e0005387.

5. Cohee LM, Chilombe M, Ngwira A, Jemu SK, Mathanga DP, Laufer MK. Pilot Study of the Addition of Mass Treatment for Malaria to Existing School-Based Programs to Treat Neglected Tropical Diseases. Am J Trop Med Hyg. 2018 Jan;98(1):95–9.

6. Richards FO. Upon entering an age of global ivermectin-based integrated mass drug administration for neglected tropical diseases and malaria. Malar J. 2017 Apr 24;16(1):168.

7. World Health Organization, Department of Control of Neglected Tropical Diseases. Integrating neglected tropical diseases into global health and development: fourth WHO report on neglected tropical diseases. 2017.

8. Waite RC, Velleman Y, Woods G, Chitty A, Freeman MC. Integration of water, sanitation and hygiene for the control of neglected tropical diseases: a review of progress and the way forward. Int Health. 2016 Mar;8 Suppl 1:i22-27.

9. Freeman MC, Ogden S, Jacobson J, Abbott D, Addiss DG, Amnie AG, et al. Integration of water, sanitation, and hygiene for the prevention and control of neglected tropical diseases: a rationale for inter-sectoral collaboration. PLoS Negl Trop Dis. 2013;7(9):e2439.

10. Ending-the-neglect-to-attain-the-SDGs--NTD-Roadmap.pdf [Internet]. [cited 2020 Dec 18]. Available from: https://www.who.int/neglected_diseases/Ending-the-neglect-to-attain-the-SDGs--NTD-Roadmap.pdf

11. OMS WASH – Un site utilisant WordPress [Internet]. [cited 2021 Jan 13]. Available from: https://apps.who.int/wash-health-toolkit/

12. fhi360. Guidance for Evaluating Integrated Global Development Programs [Internet]. fhi360; 2016. Available from: https://www.fhi360.org/sites/default/files/media/documents/resource-id-evaluation.PDF

13. Standley CJ, Graeden E, Kerr J, Sorrell EM, Katz R. Decision support for evidence-based integration of disease control: A proof of concept for malaria and schistosomiasis. PLoS Negl Trop Dis. 2018 Apr 12;12(4):e0006328.