

## Integrating Neglected Tropical Diseases into Universal Health Coverage

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### Overview:

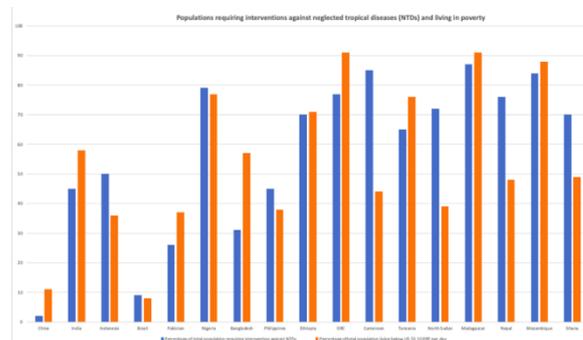
- In 2012, the WHO within its “Roadmap for Implementation” (WHO, 2012) to overcome NTDs introduced 5 key strategies;
  - Water Quality, Sanitation & Hygiene
  - Intensified Disease Management
  - Vector Control
  - Preventive Chemotherapy
  - Veterinary Public Health
- A holistic approach to NTDs has been called for by engaging with the wider social determinants of health (Bardosh, 2014), first; to avoid the risk of over-dependence on vertical programmes like MDAs; and second, to utilize the resource reach and access of the NTD programme as a tool to achieving Universal Health Coverage (UHC) (WHO, 2017b) and the wider Sustainable Development Goals (SDGs) agenda by 2030.
- Together, NTDs and UHC can consolidate individual significant achievements in health systems strengthening particularly through a growing competent workforce and integration with existing vertical programmes. Efforts now should focus on prioritizing empowerment of existing and vulnerable NTD-burdened communities to take ownership of proposed NTD-UHC programmes (a critical necessity towards sustainability beyond 2030), as well as maintain funding for improved health information systems and much needed advances in drug and diagnostic technologies.

### Background

Neglected tropical diseases (NTDs) are a heterogeneous group of 17 diseases that thrive mainly in resource-constrained regions of the world where there are marked inequities in the distribution of social determinants of health. Currently estimated to be affecting more than 1.5 billion people by the World Health Organization (WHO), these NTDs constitute a major health burden on the world’s “bottom billion” (NIAID, 2016).

These populations requiring NTD treatment are often those living below the poverty line (**figure 1**), and while there are varied existing multi-tier pathways to eradicating NTDs across contexts and within diseases, prioritization of certain strategies over others will further lead to ‘neglect’ within the broad spectrum of neglected tropical diseases.

Important linkages have been drawn between NTDs and Universal Health Coverage (UHC). Therefore, synergizing NTDs’ available innovative control strategies – which are structured for complex and challenging contexts – within the UHC presents a strategic leverage for timely UHC achievement (WHO, 2017). However, inclusion of NTDs into UHC needs to be intentional, systematic, measurable, informed by research and guided by inclusive policy that enhances balance between health system-based and community-led care.



**Figure 1:** Percentage of populations requiring NTD care and percentage of population living below US \$3.10 PPP per day (adapted from Furst et al., 2017). PPP=purchasing power parity.

### Integrating WHO strategies for NTDs within the UHC

#### Water, Sanitation & Hygiene (WASH)

The fragmentation of WASH and NTDs serves as a major challenge, since most NTDs are water related (WHO, 2012).

Global strategies covering WASH and NTDs such as the 'Water, Sanitation & Hygiene for Accelerating and Sustaining Progress on NTDs 2015-2020' are not tailored to national levels (WHO, 2012). Additionally, the disintegration of country WASH and NTD policies and actors limits implementation. Hence, tailoring these strategies and increased collaboration between WASH and NTD actors is recommended.

Furthermore, respective WASH and NTDs global targets have a 10-year gap. The SDG's 'Universal Access to WASH' and the 'NTDs roadmap' are set for 2030 and 2020 respectively (WHO, 2015). This raises concerns about how NTD targets will be achieved if WASH coverage still needs time. Nevertheless, findings in why NTD targets were not achieved due to WASH can inform better tailoring WASH of activities.

Finally, the greatest burden of NTDs is among the poorest 40% and these populations lack adequate and improved WASH facilities and services (WHO, 2012). WASH emergencies like floods make such populations more vulnerable to NTDs. Governments and donors then ought to prioritize WASH activities in poor and humanitarian communities, where populations are at most risk of NTDs (WHO, 2012).

### **Innovative and Intensified Disease Management**

Innovative and intensified disease management (IDM) for NTDs is targeted at treating diseases through case finding (Rosenberg, Utzinger and Addiss, 2016).

IDM strengthens health systems through promoting capacity building at the primary care and at the community level. Capacity development in endemic regions also improves active surveillance skills as it leverages creative outreach programs within communities such as insecticide spraying, village volunteers training, health education and housing improvement (Cucunubá *et al.*, 2017), acting on the social determinants of health and reaching marginalized groups. It also advocates for the decentralization and integration of services. It supports the provision of services near the communities that can be delivered at free cost, with the added benefit of its consolidation with other programs such as TB and malaria. For the skin NTDs, their management can be integrated with that of complications of non-communicable diseases, such as those of diabetes. An example is the community-based treatment program in Benin for Buruli ulcer (Amoussouhoui *et al.*, 2018) acting on the building blocks of the UHC, increasing coverage, and services at an affordable cost.

The IDM strategy, integrated with the other four, is aligned with the SDG target of attaining 100% access to diagnosis, treatment and care for NTDs lending 100% protection against OOPs (WHO, 2017) advancing towards UHC.

### **Integrated Vector Management**

Vector control is one of the strategies used to combat relevant NTDs. A majority of the NTDs including dengue, lymphatic filariasis and schistosomiasis are vector borne or use an intermediate host such as insects, snails, or rodents for their transmission. Vector control uses chemical and biological methods to kill the intermediate host and interrupt vector borne disease transmission. In addition to NTDs, other diseases such as Malaria are dependent on vector control methods to interrupt their transmission. By leveraging on already existing funding and control mechanisms, through targeting malaria, some NTDs can also be included in this process. For example, mosquitoes are responsible for malaria, chikungunya, lymphatic filariasis and dengue fever.

As NTDs disproportionately affect the world's poorest regions, vector control can be used as a litmus test for UHC, particularly as a measure of service coverage and financial risk protection (Dean *et al.*, 2019). Through the integration of NTDs into already existing vector control programs as well as overall prioritization of vector control strategies, vector control NTD policies can help push the realization of UHC goals specially through progressive expansion of coverage of services aimed at improving health and concrete steps in limiting financial hardship.

### **Preventive Chemotherapy (PCT)**

Preventive chemotherapy is a preventive public health and community driven intervention in which safe and quality assured drugs are administered alone or as a combination to populations in NTD endemic areas in a bid to combat transmission (Fürst *et al.*, 2017). Mass drug administrations (MDA) are an extensive intervention in which over 1 billion people are targeted with chemotherapy (Fürst *et al.*, 2017). PCT is thus considered as a best practice strategy in tackling NTDs and an innovative strategic leverage for UHC as it is structured for complex and challenging contexts (Uniting to Combat NTDs, 2017). More so, PCT is an accelerator of UHC coverage in that it implicitly has poverty alleviation as its overarching objective and thus consequently contributes directly towards the UHC goal of leaving no one behind.

Due to its multiple benefits that include cost effectiveness, widespread coverage and multiple usage

in combating multiple diseases, PCT has been incorporated into the Disease Control Priorities Project's Priority Package of Essential UHC Interventions (Uniting to Combat NTDs, 2017; Molyneux et.al 2018). However, not all NTD cases can be prevented by PCT and vector management due to drug toxicity. Such limitations buttress the need for development of context specific and integration all NTDs strategies into the UHC benefits packages as one strategy is not better than the other.

### **Veterinary Public Health**

Humans coexist with animals/vectors – many of which still bear significant agricultural, economic and ecologic importance – thereby presenting avenues for bi-directional disease transmission (CDC, 2017; WHO, 2017b). With 60% and 75% of current and novel human pathogens respectively classed as zoonotic (Nyatanyi *et al.*, 2017), stakeholders within the Neglected Tropical Diseases (NTDs) space are strongly advocating for wholesome interventions that capture the significance of Neglected Zoonotic Diseases (NZDs) – a subset of NTDs – on human morbidity, mortality (Okello *et al.*, 2015), and equity distributions of social determinants of health like income/financial protection.

Despite visible successes of mass preventive chemotherapy campaigns, NZDs still affect over 1 billion livestock-dependent populations in Africa and Asia (Bardosh, 2014). Historically successful veterinary public health interventions like 'test and slaughter' in Europe have been challenged in developing countries particularly due to the economic value of livestock in NZD-burdened communities (Okello *et al.*, 2015). This continued risk of sustained disease transmission and poverty prompted the conceptualization of the "One World, One Health" movement' by WHO's Special Programme for Research and Training in Tropical Diseases (TDR) (Bardosh, 2014).

The 'One Health' concept goes beyond zoonoses and employs multisectoral collaboration to effect evidence-based and sustainable interventions aimed at better systems-wide and public health outcomes (CDC, 2017; WHO, 2017b). While many NTD-burdened country governments lack this approach, Rwanda's One Health in policy and practice strategy – aimed at hunger eradication, environmental sustainability and improved health outcomes (Nyatanyi *et al.*, 2017) for its livestock-dependent populations at highest risk for NTDs – is exemplary. Therefore, efforts aimed at ending NTDs, attaining Universal Health Coverage

(UHC) and achieving the 2030 Sustainable Development Goals (SDGs) agenda should be synergized and must emphasize veterinary public and One Health initiatives to safeguard health and promote equity in the burdened communities.

### **Accelerators for NTDs- UHC policy integration**

The following are key issues and recommendations for NTDs regarding UHC policy integration:

#### **I. Integration between NTDs and across health interventions, including the 'Big-Three'**

Not all NTDs cases can be prevented by preventive chemotherapy and vector management due to lack of suitable drugs and limited disease coverage scope.

##### **Recommendations**

In areas where NTDs are co-endemic, integrating chemotherapy with complimentary public interventions within the five NTDs strategies is a best practice strategy which consequently results in enhanced cost effectiveness and improved health outcomes. NTD interventions such as MDA can be integrated with Expanded Programme of Immunization (Mwingira et.al, 2016), vector control interventions for dengue, lymphatic filariasis can also be incorporated with malaria control programmes and HIV interventions with NTDs (such as schistosomiasis), as there are extensive geographic overlaps and there is structured global funding mechanism like the Global Fund Against AIDS, TB and Malaria which low funded but interrelated NTDs may leverage upon (Hotez, 2017). This can be a cost-effective strategy for both health system and also communities who can be benefited from both interventions.

#### **II. Health System Strengthening and Sustainability (Local investment and Commitment)**

Progress in disease management will rely on health systems becoming more resilient (WHO, 2017). However, countries with endemic NTDs are immensely challenged especially at the primary health care level. Sustainability is irrevocably indispensable towards making frantic progress towards the elimination of diseases (Malecela,2019).

##### **Recommendations**

Health services need to be more flexible and adopt the effective and integrated NTD community- centered strategies into the health systems framework. This will subsequently enhance coverage and reduce out of pocket expenses for the already poor yet afflicted communities. This multi-directional capacity strengthening is pivotal in ensuring progress even beyond 2030. Sustainable investments must emerge

primarily from those who are most affected by NTDs, starting from the communities themselves to national governments (Malecela, 2019). As a policy recommendation, requesting governments to commit at least 2% of their health budgets for NTDs will ensure sustainability as NTDs have progressed from being just another disease but have been defined as the 'litmus test' for UHC (Molyneux et.al,2018). Considering that NTDs largely affect already poor and vulnerable populations moving towards UHC implies that health services addressing NTDS should be offered free of charge. However, in some instance there is need to harmonize compulsion of payment to those who can afford and subsidization to those who cannot afford to pay, thereby ensuring that health systems are both sustainable and inclusive. In the long term, there is need to empower communities through educating women and girls which will ensure future financing and maximum utilization of health services and subsequent adoption of good health practices for the prevention of diseases.

### III. Data Quality, Surveillance, Monitoring and Evaluation

In as much as NTDs interventions are intrinsically aligned with the UHC agenda, there are however no clearly defined targets and milestones on how the elimination goal will be achieved. As some NTDs progress culminates towards 'the end game' establishment of robust surveillance systems cannot be overemphasized (Malecela, 2019).

**Recommendations** There is need to ensure that countries have quality data that will enable the progress tracking, it is therefore opportune for NTDs to have a comprehensive and integrated data management framework within the health systems (Malecela, 2019). Thus, there is need for more financial investments and robust surveillance.

### IV. Technology and Medicines

Transmission mechanism for all NTDs are not yet fully understood and there is limited development of interventions especially medicines that target a selection of the diseases, particularly for those of the IDM group. Through its well-articulated research and development needs, WHO's roadmap highlights the need for new drugs and diagnostics as fundamental.

#### **Recommendations**

In a bid to overcome these challenges which are exacerbated by comorbidity, climate change, natural disasters, conflicts and migration it is imperative to develop not only affordable but integrated diagnostic tools and medicines to improve treatment outcomes

(Malecela, 2019). Alternative funding schemes coupled with countries ownership, can lead the way towards novel research and development initiative's for new tools for NTDs, improving diagnosis, treatment and management, reducing health care inequalities and reaching UHC (Addisu *et al*, 2019).

#### **Conclusion**

Significant progress in achieving the WHO roadmap for ending neglected tropical diseases by 2030 has been made by relying on vertical programmes. Currently these interventions face the overarching NTDs' challenges of limited funding, suboptimal capacity to implement, monitor and evaluate, and continued lack of inter-sectoral collaboration. As the current Roadmap nears its end in 2020, it is an opportune time for the NTD community to design an acceleration plan which goes beyond the current discourse of largely focusing on diseases with medicines and large scale prevention interventions to an eclectic 'one health' approach that encompasses not only the five strategies but their linkages to the 'big three' –HIV/AIDS, TB and Malaria- and how such interventions can be collectively incorporated into the broader public health system. Going forward, it is important to integrate NTDs into existing health systems by aligning their policies with the UHC in order to accelerate achievement of the 2030 SDGs agenda.

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