

Assessing Stakeholder Engagement for Translation Research and Implementation Science in Low- and Middle-Income Countries

Lessons From Ghana, Guatemala, India, Kenya, Malawi, Nepal, Rwanda, and Vietnam

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While a variety of evidence-based interventions for noncommunicable disease (NCD) prevention, treatment, and control exist, these interventions are underutilized in low- and middle-income countries (LMICs) [1]. This underutilization of evidence-based interventions presents a distinctive opportunity to invest in late-stage translation phase 4 research (T4TR). T4TR research is defined as research to identify implementation strategies to enhance sustainable uptake of proven-effective interventions into routine clinical practice and community-based settings to maximize population health impact [2-4]. In 2017, the National Heart, Lung, and Blood Institute formed a consortium to contribute to the capacity building and implementation of late-stage evidence-based hypertension (HTN) interventions in LMICs. This multidisciplinary group of researchers and practitioners span 8 countries (Ghana, Guatemala, India, Kenya, Malawi, Nepal, Rwanda, and Vietnam) with distinct set of research programs designed to promote T4TR research in LMICs. Five countries (Ghana, Guatemala, India, Kenya, and Vietnam) focus on Hypertension outcomes for T4-Research within Lower Middle-Income Countries (Hy-TREC), while 3 countries (Malawi, Nepal, and Rwanda) focus on T4 Translation Research Capacity Building Initiative in Low Income Countries (TREIN) in low-resource settings. These 2 programs that were funded by the National Heart, Lung, and Blood Institute comprise the Hy-TREC and TREIN Consortium. Recognizing that T4TR presents a unique set of challenges, the Hy-TREC and TREIN group addresses not only theoretical approaches to building capacity for implementing T4TR, but also fosters networking, intervention development and implementation, and scientific discussions among its members.

This special issue of *Global Heart* is dedicated to research focused on stakeholder engagement within T4TR research in all 8 countries involved in the Hy-TREC and TREIN consortium. It begins with a Kathmandu Declaration on Global Cardiovascular Disease/Hypertension Research that highlights a framework for advancing implementation science research in LMICs. The declaration utilizes a lean thinking approach to NCD implementation science research, one that routinely outlines what is needed, when it is needed and in the amount needed, so as to enable policymakers and other key stakeholders to

implement sustainable evidence-based strategies that ultimately reduce mortality and prevent avoidable illness from NCDs in LMICs. In addition, the collection of papers published as part of this special issue reflects the current state of science on the barriers and facilitators to stakeholder engagement in T4TR in LMICs. The set of papers contained in this special issue offers a broad range of case studies regarding the benefits of engaging stakeholders in T4TR research. Researchers illustrate how stakeholders are key for providing perspectives that are useful, relevant, and credible with implementing T4TR research. By soliciting the opinions, interests, concerns, and priorities of stakeholders early in the research process, the findings are more likely to address stakeholder's specific information needs and maybe useful for a range of purposes, among them to improve program effectiveness of HTN interventions, affect policy change, or instigate behavioral change at the individual, provider, or health systems level. The papers presented examine these issues, engaging a wide range of stakeholders and providing opportunities to explore issues that are relevant and meaningful to them.

The papers in this issue fall into 3 main groups, each group with an overarching theme. The main themes are: 1) risk factors for HTN control and management; 2) needs assessment and gaps with HTN delivery; and 3) multiple strategies for stakeholder engagement and the recognition of implementation science as a significant field of research that can be used to address HTN.

The first group of papers examined risk factors for HTN as well as interventions to address these risk factors in LMICs. In Malawi, Amberbir et al. conducted a systematic review of HTN and diabetes burden in Malawi as well as interventions on prevention and control of these diseases. They found 23 studies that underscored a high burden of HTN and diabetes in Malawi. However, innovative targeted interventions to prevent, control, and treat these diseases are still limited in the country. In Ghana, Nyame et al. assessed the practice capacity for HTN management and control among community health officers within community-based health planning and services system. Although most of the community health officers were aware of the importance of lifestyle modifications, knowledge of blood pressure threshold for initiating treatment as

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well as knowledge of first-line HTN medication was limited.

The second group of papers conducted needs assessment to examine core facilities, training needs, and gaps with the delivery of HTN services in LMICs. Baumann et al. conducted a regional needs assessment of infrastructure for dissemination and implementation (D and I) strategies for HTN-cardiovascular disease (CVD) control in Rwanda with the goal to not only develop HTN-CVD research capacity, but also engage and train multiple stakeholders in dissemination and implementation science research. Following a week-long training in D and I research, the authors found a statistically significant increase in D and I knowledge and skills as a result of training. Duc et al. also conducted a needs assessment that identified gaps in the delivery of HTN management practices in many rural communities in Vietnam. These gaps include limited roles of community-level health facilities in providing HTN treatment, a lack of financial support resources, limited capacity of community health workers (village and commune), and a lack of coordinated and continuity care for HTN management across varying levels of care. To address these gaps, the authors noted that engagement of multiple stakeholders and communities in Vietnam are necessary to significantly enhance ongoing community-based HTN control project that are useful and relevant to patients and communities. Another paper from Nepal by Shrestha et al. used the 7Ps framework (patients and the public, providers, purchasers, payers, public policymakers and policy advocates) to develop a plan for assessing cardiovascular health needs in Nepal. Recommendations from >40 key stakeholders led to the identification of a comprehensive list of relevant stakeholders that are directly impacted by CVD or can influence CVD prevention and management in Nepal. The final paper in this group is from Malawi, where Oosterhout et al. as part of their NCD-BRITE (Building Research capacity, Implementation and Translation Expertise) program are preparing to conduct detailed assessments of the burden and risk factors of common NCDs in Malawi with the goal to assess the research infrastructure needed to inform, implement, and evaluate NCD interventions as well as create a national implementation research agenda for priority NCDs and develop NCD-focused implementation research capacity.

Finally, the third group of papers looks at the use of multiple strategies to engage key stakeholders in T4TR in LMICs. In Guatemala, Fort et al. used interviews, focus groups, and participatory research design to present evidence-based interventions on HTN conducted in another setting (Argentina) to stakeholders with the goal to identify facilitators and challenges to adapting and implementing the intervention in Guatemala. The use of multiple strategies for stakeholder engagement allowed Fort et al. to develop a shared vision for implementation as well as the identification of local perspectives on the challenges and opportunities for tailoring an intervention developed on a different context for their context. In Ghana, Iwelunmor

et al. used interviews, focus groups, and brainstorming activities to identify facilitators and barriers to the adoption of an evidence-based task-strengthening strategy for HTN control in Ghana. The findings illustrate how inner context characteristics such as the provision of resources, training, supervision, and monitoring and community outreach are significant for the adoption of evidence-based HTN strategy in Ghana. In India, Jindal et al. used multiple strategies for statewide implementation of mPower Heart e-CDSS at the NCD clinics across the government health facilities in Tripura. These strategies ranged from the formation of a technical coordination-cum-support unit to establishing an enabling environment, keeping user focus in mind and strengthening the Health Information System. In Kenya, Akwamalo et al. used the levels of engagement framework developed by the international association of public participation to illustrate how stakeholder engagement for their project will range from informing stakeholders to consulting, involving, collaborating, and empowering so as to ensure that the intervention is relevant, useful, and aligns with national priorities and goals. Finally, Aifah et al. communicate a strategy for using implementation research to address HTN and other NCDs including CVD in low resource settings. Together, the papers described previously are important because they provide scientific evidence to inform stakeholder engagement in T4TR research for HTN management and control in LMICs. This contribution cannot be overstated. As noted previously, LMICs are experiencing a growing burden of CVDs propelled by rapidly increasing prevalence of HTN. Despite the availability of evidence-based HTN interventions, translation into real-world settings in many LMICs is still limited. The collective agenda of the papers in this issue aim to illustrate why the success of the implementation and translation of these evidence-based interventions will depend on not only their substance, but also the support of critical stakeholders. As the studies presented encompass a select set of countries in LMICs, this special issue does not claim to present an overview of T4TR research in these contexts. Rather, it offers insights into the priorities ahead with the goal of illustrating why stakeholder engagement matters for the implementation, evaluation, and long-term sustainability of evidence-based HTN interventions implemented in these contexts. Our hope is that the special issue will contribute to a more thorough examination of implementation science research for NCDs prevention, treatment, and control in LMICs while offering thoughtful theoretical perspectives on how T4TR research may be used to address questions that are relevant to patients, physicians, policymakers, and other health decision makers in low-resource settings.

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