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LESSONS AND EXPERIENCES

Barriers and opportunities to disseminate and translate evidence from implementation research and quality improvement in the context of resource limited settings

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ABSTRACT

The use of research evidence to influence policy decisions and practice is crucial for improving health service delivery and outcomes. Effective influence requires timely dissemination and translation of evidence to practitioners and policymakers at all decision-making levels. Traditional literature on research dissemination strategies has primarily focused on the Global North, often reflecting funding structures from that region. Yet there is a wealth of research, especially operational research as well as quality improvement (QI) initiatives that have been central to programs in the Global South where health resources are often limited.

This article examines the challenges and opportunities of turning research and quality improvement work into policy and practice in resource-limited settings. It draws on insights from the authors' roles as panelists and moderators at the 3rd Annual Research and Quality Improvement Symposium, hosted by Partners In Health and the Ministry of Health of Sierra Leone on November 19, 2024.

Barriers to effective dissemination of scientific evidence include limited collaboration among partners, funding constraints, visa issues and travel restrictions. Additionally, inequities in research authorship, gender disparities and language barriers hinder evidence dissemination. Building strong collaborations between policymakers and researchers presents valuable opportunities to bridge these gaps. Innovative methods such as digital platforms can also enhance dissemination despite resource limitations. Further, decolonizing global health research and ensuring equitable access to resources are critical for effective evidence sharing. Advocating for local conferences and leveraging funding mechanisms from the Global South can further support researchers in these contexts.

To enhance healthcare quality in resource-limited settings, innovative strategies for sharing and implementing research and quality improvement initiatives are essential. Local researchers can utilize local knowledge, technology and partnerships to effectively disseminate findings that meet community needs. Strategic communication and collaboration among stakeholders are vital for translating research into policies that positively impact health outcomes.

Keywords: Dissemination, translation, quality improvement, research, resource limited setting.

Abstract in Español at the end of the article

INTRODUCTION

Driven by global burden of disease and momentum of discussions around inequalities in health care, research activities in resource-poor settings have significantly increased [1]. As a result, evidence generated through health research and quality improvement (QI) initiatives that involves using data-driven approaches to identify areas for improvement, implementing changes, and evaluating the outcomes of those changes holds significant potential to strengthen the proper functioning of health systems and to promote service delivery [2,3]. Consequently, disseminating and translating research evidence to influence policy decisions and practice is a global priority because of its potential impact on health services delivery and outcomes [4,5].

In recent years, health research and quality improvement efforts in low- and middle-income countries (LMICs) have led to many effective interventions. To maximize these benefits, the timely dissemination of evidence and its translation into practice are essential for bridging the gap between research findings and real-world applications [6,7]. Implementation sciences aim to prioritize and streamline these processes enhancing the efficiency and speed up the application of scientific innovation across the translational continuum [8]. This focus ultimately seeks to improve both patient and population health.

In the global health landscape, the production and dissemination of research and QI work are increasingly viewed as essential metrics for success and quality evidence generation for interventions [4,9]. However, the full potential of research and QI evidence to influence decision-making and policy changes is still not being realized in resource-limited settings [8]. According to Balas and Boren, it takes an estimated 17 years to fully integrate research findings into practice, with only 14% of original research ultimately benefiting patient care in LMICs [10]. This ongoing challenge significantly hampers the delivery of quality healthcare.

Inadequate dissemination can lead to the perception that research is a waste of resources, failing to foster positive health outcomes. This disconnect underscores the importance of ensuring that research and QI efforts are effectively communicated and utilized within health systems [3,11,12].

Evidence dissemination and translation are complex, non-linear processes that involve multiple interactions between relevant stakeholders. Successfully implementing evidence-based practices requires careful planning and strategies that address the intricacies of healthcare systems. Research design should incorporate considerations for translation, including the involvement of end users and evaluation of the implementation process [4,5].

This article highlights key insights into the barriers and opportunities for disseminating and translating research and quality improvement evidence in resource-limited settings.

APPROACH

The paper draws on insights from the authors' roles as panelists and moderators at the 3rd Annual Research and QI Symposium, hosted by Partners In Health and the Ministry of Health of Sierra Leone on November 19, 2024.

The theme of the panel discussion was "Evidence Dissemination and Translation into Practice," focusing on how to effectively share research and QI work to improve health services at PIH-supported facilities. The panelists were both from the academia and program decision makers that discussed the challenges and opportunities in line with the panel theme. The panelists included: Dr. Sharmistha Mishra, Associate Professor and Clinician Scientist at the University of Toronto, Canada; Dr. Gregory Jerome, Global Senior Advisor on Health System Strengthening at Global PIH, Boston, USA; Dr. Moses Mugisha, Obstetrician & Gynecologist at PIH Sierra Leone; and Mr. Laban Bikorimana, clinical program manager at PIH Rwanda. The panel discussion was moderated by Dr. Zeleke A. Mekonnen-a research specialist at PIH Sierra Leone.

Besides, over 100 participants from the Ministry of Health, Partners in Health, health facilities and various NGOs shared their insights, emphasizing PIH's role in enhancing research activities within Ministry of Health facilities in Sierra Leone.

KEY PERSPECTIVES

Several factors are associated with the level of research and QI work dissemination and application where some pertain not just to the Global South, but also the Global North as well. The following are the main barriers and opportunities identified:

Limited collaboration and engagement with relevant partners

Evidence indicates that fostering partnerships between policymakers, researchers, and health professionals is essential for effectively disseminating and translating evidence throughout the research and QI processes [6,7,13]. However, the panelists at the symposium emphasized the limited collaboration among academic, governmental, and non-governmental institutions that hampers sharing and the dissemination of research initiatives in resource-limited settings.

Historically, a divide existed between research and program services, often viewed as separate endeavors. In both the Global North and Global South, research is often perceived as a university-led initiative separate from programmatic efforts. However, fields like implementation science and program science challenge this notion by underscoring the importance of integrating scientific methods within programs. Besides, engaging policymakers in resource-limited areas is challenging due to differing priorities and communication barriers, leading researchers to work in isolation and fragment efforts. Studies also indicated that involving all relevant

partners early in the research and QI process enhances dissemination [11].

In recent years, there has been a growing emphasis on engaging local communities in health research, as evidenced by initiatives in Vietnam and Rwanda [14]. However, community participants often express frustration that research findings are not effectively communicated back to them [15]. This gap in communication highlights the need for better engagement with local stakeholders. Equally, strengthening collaborations among stakeholders at all levels is vital for translating research into clinical practice [7].

Barriers related to health workers' engagement and institutional support also exist. Institutional support is crucial for effective research dissemination, with funding needed to share findings. Collaboration with local universities can improve research quality and credibility. Training and education are vital for researchers to develop skills in high-quality research and dissemination [16,17]. The balance between clinical activities and research should also be closely monitored [18].

Panelists at the symposium emphasized that the involvement of health workers and local leadership is vital for effectively disseminating research and integrating QI findings into everyday practice. For instance, the panel discussion participants reflected that the support from senior leadership and clinical staff at PIH-Sierra Leone has facilitated research and QI products dissemination efforts and practical use for local decision-making. Further, PIH is an advocate to attending conferences and workshops to disseminate PIH work both at national and international levels. It also supports publication of research and QI products in reputable journals. Application of digital platforms for dissemination of research and QI outputs is also promising as planned by PIH-Sierra Leone.

This shows that strong leadership fosters a culture of continuous quality improvement and evidence-based practices. When leaders prioritize research and QI initiatives, it lays the foundation for effective dissemination and application of findings. Ongoing capacity building and clinician engagement are crucial for meaningful change, emphasizing the role of health workers and local leaders in integrating research into daily practice. Ultimately, sustainable organizational capacity building is essential for long-term improvements in research and QI outputs dissemination.

Resource constraints

Effective dissemination of research and QI outputs should begin locally and extend to national and international levels. However, resource constraints often limit opportunities for sharing findings with the scientific community, as travel and participation in international events typically require funding. This challenge is even greater for south-to-south dissemination. Many low-resource settings lack the necessary infrastructure, such as internet access to facilitate effective communication. Previous studies have identified resource availability as a crucial factor impacting dissemination efforts in LMICs where insufficient local funding exacerbates these issues [6,12,14,19].

Disparities in research funding hinder the generation of robust evidence for policy decisions, as studies from underfunded settings often go unnoticed. A lack of resources often prevent researchers from attending and presenting at international conferences, with funding limitations and access to technology being common barriers [20]. Additionally, there is a scarcity of grants aimed at supporting underrepresented researchers from resource-limited settings. To tackle these challenges, innovative and cost-effective dissemination methods, particularly using digital health tools, can help researchers share their findings widely without significant expenses. Equally, increasing scholarships and funding opportunities such as institutional grants are essential.

Nowadays, there is also a growing movement to ensure that knowledge is shared locally and across similar settings where shifting power in global health will require leadership by the global south [21,22]. Despite an increase in research conducted in resource-poor settings of the global south, specific resources supporting the research endeavors remain limited. Most research depends on funding from the high-income countries, channeled through international funding programs by governments or research funding agencies. Even, this funding support is usually inclined to address the Global North interests and not selflessly addressing the pressing basic issues at LMICs [21,22]. Also, with the current changes incurred with the U.S. government foreign aids for global health affecting available funding through agencies such as USAID, PEPFAR, etc., the support from the Global North is further reduced and less reliable. To address this, the symposium panelists recommended that funding structures should incorporate dissemination efforts and advocate for more international conferences and knowledge dissemination workshops to be held in the Global South, rather than primarily focusing on the Global North.

Visa issues and travel restrictions

Visa requirements and travel restrictions are significant barriers to the dissemination of research and QI initiatives at the international level, particularly for health workers and researchers from resource-limited settings. Immigration challenges often prevent researchers from obtaining timely visas to attend crucial conferences in high-income countries and visa issues can undermine the inclusivity of scientific conferences, hindering collaborative opportunities and bi-directional knowledge exchanges [23]. Evidence also shows that visa requirements can be substantial barriers for research-related travel from a resource limited setting (24). This situation disproportionately affects scholars from LMICs, making it difficult for them to share their research and QI initiatives and learn from global best practices.

The visa application process can be costly, time-consuming and complex, discouraging researchers from even applying. Travel restrictions due to immigration, political or diplomatic issues between countries can also hinder international collaborations necessary for knowledge exchange and the implementation of QI initiatives. Visa restrictions are continuing to exacerbate disparities between countries. As a result, researchers miss valuable networking opportunities and exposure to innovative practices that could be adapted to their local contexts. Recent data indicates that African researchers face particularly high rejection rates for Schengen visas [25], limiting their participation in important conferences, such as the International AIDS Conference often hosted in Schengen countries [26].

As highlighted by the panelists, the common reasons for visa refusals include insufficient documentation, financial constraints, travel bans and/or restrictions for citizens from some countries to others, and concerns about intent to return. Addressing these challenges through careful preparation, thorough documentation, and clear communication of the purpose and significance of the work can help improve the chances of securing visas for international dissemination efforts. Further, researchers should seek institutional support for visa applications and provide proof of invitations to enhance their applications. Host countries could also work more closely with their immigration services to facilitate the visa application process for potential participants of international events. Equally, international organizations should consider hosting conferences in LMICs to ensure equitable access [23].

Utilizing technology for remote participation can also facilitate engagement, as many conferences are adopting hybrid models that allow for virtual attendance. Again, the virtual attendance might be challenged with poor IT infrastructure and internet connectivity existing in LMICs often hindering effective participation. Moreover, this issue requires advocacy at global level for more inclusive policies and innovative engagement strategies for fair representation to support researcher mobility and knowledge sharing across the scientific community.

Lack of meaningful equity during authorship and publication

Discussions around global equity and justice in science typically emphasize the lack of diversity in the editorial boards of scientific journals and inequities in authorship that are pervasive and must be addressed [22]. Authorship inequities in international collaborations further challenge local researchers, particularly early-career professionals, limiting their ability to present their work. Thus, establishing accountability mechanisms for authorship and publication are crucial for fostering an equitable research environment that values diverse contributions and ensures all voices are heard in the dissemination of scientific knowledge.

Some lessons from Sierra Leone and Rwanda showed that establishing accountability mechanism and disseminating clear and transparent guidelines for authorship that emphasize contributions beyond mere funding or seniority are crucial to ensure equity in research authorship. There is also a need for academic institutions in LMICs to create mechanisms for research production to account as explicit and heavily weighed criteria toward academic progression within their academic institutions. This can help ensure that all contributors receive appropriate credit. Encouraging research-funding institutions to establish grants that support research projects that specifically address equity issues in research are also helpful.

Many local researchers also struggle with the high costs of publication fees. Many reputable journals require authors to pay publication fees, which may be not feasible for researchers in resource-limited settings [18]. The inequities in research dissemination also highlight the necessity for tailored support and funding to amplify local voices. Strengthening academic institutions in the Global South is also crucial for decolonizing global health research and ensuring equitable access to resources [18]. For this, there are promising efforts from journals like "The Journal of Community Systems for Health (JCSH)" a joint venture by a network of researchers from five institutions that are focusing on reaching readership across Global South.

Gender inequity in research dissemination and translation

Gender inequity in research remains a significant challenge, as women, despite being predominant in clinical and public health fields are under-represented in leadership roles. The gender disparities and inequities faced by women in academia are also widespread, especially in LMICs where access to education in general and especially advanced education is limited to women [27].

Also, the scholarly output of women scientists remains significantly lower than that of men due to limited opportunities. According to the UN Educational, Scientific and Cultural Organization's report, women comprise less than 30% of the world's researchers with the lowest proportions in in LMICs [28].

As reflected by the symposium panelists, these issues stem from institutional cultures with historical imbalances. Women researchers often face multifaceted constraints due to their multiple responsibilities, including teaching, clinical duties and administrative roles which can limit their ability to prepare for and engage in international representation.

Prioritizing capacity building and ensuring gender balance in research activities are essential steps to address this disparity, especially in resource-limited contexts. Again, it is essential to ensure that our programs are gender-balanced and to enhance female representation in research activities at the organizational level.

Language barriers in evidence dissemination and translation

Successful dissemination requires identifying the right audience and tailoring messages through appropriate communication mediums suitable for the local context [4,11]. Language barriers can impede effective dissemination of research and QI outputs, as findings may be presented in complex language or formats that are hard for policymakers and health workers to understand. There is also often limited access to diverse communication strategies needed to reach intended stakeholders in resource-limited settings.

Language barriers present significant challenges in research and QI efforts for most non anglophone countries since most conferences and publications are in English language. Researchers from resource-limited settings from those countries often face these language obstacles with an additional burden, making it difficult for them to compete for authorship with peers from high-income countries. Additionally, if research findings are published in languages that are not widely spoken in the community, they may become inaccessible to key stakeholders [20].

Research published in languages not understood by target audiences, such as local communities and policymakers, can restrict access to crucial findings and recommendations, confining them to academic circles and limiting their practical application. Language barriers also hinder researchers from engaging with international colleagues, reducing opportunities for collaboration and knowledge sharing. English language translation services could be used as a strategy to partially overcome the context of English dominating in publication and dissemination, but it does have further cost implications. To address these challenges, Artificial Intelligence (AI) might also provide an alternative.

In general, inadequate communication can be a barrier to timely and effective implementation of research findings [11,29]. To maximize the impact of research initiatives, it is vital to address these barriers through community engagement and effective communication strategies. Employing multi-channel dissemination strategies and including various platforms for publication can enhance the reach and visibility of research, ensuring that findings are accessible to relevant audiences.

Conclusion

This commentary identified the existing challenges and potential opportunities of disseminating evidence. Even with increased research and QI outputs, significant barriers to research publication and dissemination still exist in resource-limited settings like Sierra Leone. The commentary also highlighted the influence of individual, organizational and structural factors on translating health research and QI findings into policy and practice.

To improve healthcare quality, innovative strategies for sharing and implementing research and QI initiatives are essential. Key to effective scientific knowledge translation are collaborations between policymakers, health professionals and researchers which can promote resource sharing, equity and supportive policies for evidence-based practices.

Researchers can leverage local knowledge, technology, partnerships and practical strategies at all levels to effectively disseminate findings and ensure they are relevant to community needs. Overall, strategic collaboration and communication are crucial for translating research and QI outputs into impactful policy decisions that enhance health outcomes.

DECLARATIONS

Publication consent

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Competing interests

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Author contributions

ZAM drafted the manuscript. All the authors participated in revising the manuscript and approved the final version to be published. They also accept responsibility for this research work.

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ABSTRACT IN SPANISH

Barreras y oportunidades para la diseminación y traducción de evidencia proveniente de la investigación de implementación y de la mejora de la calidad en contextos con recursos limitados

El uso de la evidencia científica para influir en las decisiones de política y en la práctica es fundamental para mejorar la prestación de servicios y los resultados en salud. Para lograrlo, se requiere la difusión oportuna y la adecuada traducción del conocimiento hacia profesionales y responsables de políticas en todos los niveles de toma de decisiones. Sin embargo, la literatura sobre estrategias de diseminación se ha centrado principalmente en el Norte Global, en gran medida reflejando sus estructuras de financiamiento. Esto contrasta con la creciente producción científica en el Sur Global, donde la investigación operacional y las iniciativas de mejora de calidad (MC) han sido esenciales para fortalecer programas en contextos con recursos limitados.

Este artículo examina los desafíos y oportunidades de traducir resultados de investigación y procesos de mejora de calidad en políticas y prácticas en dichos entornos. El análisis se nutre de las reflexiones derivadas de la participación de los autores en el 3er Simposio Anual de Investigación y Mejora de Calidad, organizado por Partners In Health y el Ministerio de Salud de Sierra Leona en noviembre de 2024.

Entre las principales barreras para la difusión eficaz de la evidencia se encuentran la colaboración limitada entre socios, restricciones de financiamiento, problemas de visado y limitaciones de viaje. A ello se suman inequidades en la autoría, disparidades de género y barreras lingüísticas, que restringen la visibilidad y el impacto de la investigación. Superar estos obstáculos exige construir colaboraciones sólidas entre investigadores y responsables de políticas, así como aprovechar métodos innovadores como plataformas digitales que permitan ampliar el alcance pese a las limitaciones de recursos.

De igual manera, resulta crítico descolonizar la investigación en salud global y garantizar un acceso equitativo a los recursos. Promover conferencias locales y movilizar mecanismos de financiamiento desde el Sur Global constituye una vía estratégica para apoyar a la comunidad investigadora en estos contextos.

Finalmente, mejorar la calidad de la atención en entornos con recursos limitados requiere estrategias innovadoras para compartir e implementar resultados. Los investigadores locales pueden recurrir al conocimiento comunitario, la tecnología y las alianzas para difundir hallazgos relevantes que respondan a las necesidades de la población. La comunicación estratégica y la colaboración entre actores clave son esenciales para transformar la evidencia en políticas que impacten de manera positiva en la salud.

Palabras clave: Difusión, traducción, mejora de la calidad, investigación, entornos con recursos limitados.

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