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Positioning global pharmacy research partnerships to advance health equity

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A B S T R A C T

Interest in global pharmacy research partnerships is growing, and many Schools and Colleges of Pharmacy are looking to expand their footprint in the global health arena. This will create opportunities for increased collaboration and synergy, but there will also be concerns for potential duplication and fragmentation. Such research partnerships also present unique opportunities for addressing unmet medication-related needs of populations around the word, especially for vulnerable populations living both in high income countries (HICs) and low- and middle-income countries (LMICs). Pharmacy leaders and researchers engaged in global health partnerships or planning to start one can draw important lessons from other global health partnerships but also by studying the historical context and evolution of global health initiatives. To be meaningful, global pharmacy research partnerships must be grounded in local contexts and be sensitive to the myriad influences and actors that may determine success of their research endeavors, including health interventions. A deliberate and thoughtful investment in mentorship and faculty development for LMIC collaborators are also essential ingredients for sustainability of global research partnerships.

Introduction

The past few decades have witnessed increased global health partnerships, spurred by major financial support from governments of high-income countries[1] (HICs), philanthropic organizations,[2] and multilateral financing mechanisms.[3] In recent years, the global health space has been experiencing further widening of its scope and reach as new actors join the fray,[4] potentially opening new horizons for partnerships. Such growth in global health engagement presents unique opportunities for global health researchers and practitioners, including those in the pharmacy profession. However, there has been a growing concern related to complexity and fragmentation of global health initiatives.[5,6] These concerns are also joined by a growing call for building partnerships that are context-informed, mutually beneficial, sustainable, and meaningful to the citizens of collaborating institutions and nations.[7]

Paralleling the other health professions, pharmacy collaborations addressing global health challenges are growing.[8–13] The need for global solidarity in strengthening education and research capacity in pharmacy and pharmaceutical sciences has recently been emphasized through the International Pharmaceutical Federation's (FIP) Nanjing statement.[14] The Lancet Commission's report on 21st century health workforce[15] identified glaring gaps in health professions curricula and failure of current training mechanisms to produce graduates equipped for the needs of society. The 2013 FIP global education report[16] also pointed to major gaps in global pharmacy education. Taken together, these findings point to a strong need for increasing global partnerships to develop pharmacy education fit for the 21st century and research collaborations that yield benefits in solving key medication use-related challenges.

As the pharmacy profession looks forward to expanding its engagement in global cooperation, important lessons can be drawn by studying the historical context and evolution of global health initiatives and developing a shared understanding of current challenges to and possible solutions for creating a just, equitable, and sustainable global health partnership. The following sections will expand on these issues and offer some recommendations for pharmacy leaders, researchers, and academics interested in global health research partnerships.

Understanding context and historical legacies is key

Several actors—both state and non-state—have important roles in the global health space, including in exerting major influence on funding and prioritization of health interventions. These actors include, but are not limited to, the United Nations and its agencies, the World Bank Group, government agencies from HICs, a growing number of philanthropic organizations, national ministries of health, academic institutions, non-profit organizations (often serving as conduits for implementing donor-funded programs), faith-based institutions, and private entities.

To understand the true influence and implications of present-day global health global collaborations, they must be viewed in the context of historical legacies from colonialism and contributions of major actors and events in shaping evolution of global health engagements. Modern day global health programs trace their roots to 19th and early 20th century colonial expansion of European powers into the tropical regions of the world. The conquest of indigenous peoples, often aided by important pharmaceuticals of the time,[17] have led to

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generations of exploitation and degradation of local wisdom and institutions. This period of colonialism also set the stage for developing the early forms of global health, primarily conceived to promote hygiene and advance the science of tropical medicine.[18,19]

The modus operandi for these early forms of global health initiatives has favored vertical, disease specific programs, often at the expense of more holistic investments in national health systems. The hookworm eradication program[20] is one major example of a selective health program during the early 20th century, commissioned by the International Health Division (IHD) of the Rockefeller Foundation[21]—the major global health philanthropy of the time. Operational knowledge gained form such vertical programs would lay the foundation for subsequent campaigns led by the World Health Organization (WHO) after it was established in 1948 and assumed the mandate of IHD's programs.[21]

While the WHO and United Nations Children's Fund (UNICEF) have remained key global health actors, other agencies have gradually emerged to influence global health policy in LMICs. Notably, the late 20th century saw years of structural adjustment programs imposed on LMICs by the major global financial institutions (the World Bank and International Monetary Fund),[22,23] severely undermining national governments' ability to make adequate investment in health, education, and other social programs.

Current global health collaborations are thus forged within such historical contexts (e.g, colonial era influences of global health), amid a complex interplay of actors (e.g, WHO, World Bank, philanthropic organizations) and influences serving as a backdrop. Within pharmacy-specific collaborations, important conversations around issues such as cultural sensitivity are happening, and scholars have provided guidance specific to countries and regions of the world.[24–27] These must be broadened to provide a historical context and a deeper understanding on the complexities of the global health space, including issues related to power imbalances across collaborating partners. Recent calls to decolonize global health[28] speak to these power imbalances and are important reminders for working towards a more equitable and just global health partnership in program design, implementation, knowledge production, and many related issues.

Shared health challenges as drivers of global health research collaboration

Many low- and middle-income countries (LMICs) have weak health systems and are challenged by lack of adequate number of a well-trained health workforce.[29] Several LMICs have attempted to address the healthcare worker gap by training and deploying community health workers that provide a package of essential health services to their citizens. In the East African nation of Ethiopia, for example, the Federal Ministry of Health trained and deployed more than 35,000 community health workers (locally known as Health Extension Workers), the majority of which are women high school graduates.[30]

Despite an advanced economy, HICs also share similar workforce challenges, including those related to unequal geographic distribution and poor healthcare access for marginalized communities.[31,32] Some settings in HICs are already leveraging practices from LMICs (e.g, community health workers) to address the needs of vulnerable populations such as in reducing maternal mortality among pregnant women living in remote areas.[33] This emerging paradigm, coined as "reciprocal innovation[34–37]", can also be explored within the context of global pharmacy research collaborations. This, in turn, would promote shared learning and application of innovations tested and tried in different contexts.

The convergence of multiple paradigms, including greater appreciation for interconnectedness of health and shared global health challenges, thus create a fertile ground for global pharmacy research collaborations to support national policy efforts in advancing the needs of vulnerable populations by developing and adapting interventions that are relevant to individual contexts. Indeed, this sentiment holds even a greater meaning as the world is currently in the grip of the COVID-19 pandemic, which is likely to exacerbate existing health inequities experienced by disadvantaged populations.[38] Pharmacy researchers and practitioners are also being armed with knowledge in the emerging field of implementation science,[39] which offers even greater opportunities to study contexts, factors, and strategies that impact implementation success when innovations are shared across communities and transnational boundaries.

Embedding peer mentorship and faculty development in global pharmacy research partnerships is key

A key challenge for researchers from LMICs is inadequate research infrastructure and institutional support. These create barriers that perpetuate imbalances in power and equitable utilization of resources among global health partners. In contrast, many researchers from HIC institutions enjoy the fruits of a well-developed research environment. In the U.S, for example, some junior faculty from research universities have access to generous startup funds and career development research grants. Unfortunately, the same cannot be said for many junior faculty from LMICs, and this may be among the contributors of high attrition rate and the "brain drain" among the most promising LMIC scholars. Thus, building capacity of LMIC faculty collaborators and graduate learners must be an important element of a sustainable global health partnership.

An important ingredient of a strong research infrastructure is the availability of a mentorship culture that nurtures junior researchers. Many academic research institutions in HICs have well-developed mentorship programs that support junior faculty and graduate learners.[40,41] However, there is limited literature on mentorship experiences within pharmacy global collaborations. One example is a short-term mentorship and leadership development program through The Mandela Washington Fellowship program of President Obama's Young African Leaders Initiative.[42] Successful pharmacy faculty mentorship programs have been reported by pairing senior faculty from well-established schools with junior faculty from schools with limited mentorship opportunities.[43] Similar approaches can be adapted to mentor faculty within LMICs and within the context of global health partnerships.

Outside of pharmacy, there exist examples of successful mentorship and faculty development models within global health collaborations between investigators from HICs and LMICs. One recent example is the Medical Education Partnership Initiative (MEPI),[44,45] a $130 million grant from United States President's Emergency Plan for AIDS Relief and the U.S National Institutes of Health, awarded to 13 medical schools in 12 Sub-Saharan African countries. Each of the awardee institutions subsequently partnered with several medical schools in their own country, increasing the impact of the award.

Through this partnership, collaborating institutions have successfully mentored and trained a number of their junior faculty in conducting research and increased institutional capacity to manage research projects. As a result of these efforts, several faculty from participating LMIC institutions have successfully secured competitive grants.[46] The MEPI program, along with a related nursing focused program (Nursing Education Partnership Initiative[47]), recently evolved to form a multidisciplinary, continental platform known as the African Forum for Research and Education in health (AFREhealth).[48,49] Global pharmacy research partnerships situated in the sub-Saharan African regions can benefit from partnerships from leaders of these programs in their respective institutions.

Looking to the Future of global pharmacy research partnerships

Many institutions in HICs, including Schools and Colleges of Pharmacy, are looking to expand their footprint in the global health arena. This will create opportunities for increased collaboration and synergy but there will also be concerns for potential duplication and

fragmentation of efforts. Given the vast nature of the health challenges affecting vulnerable populations, both in HICs and LMICs, it will take a bold leadership and spirit of global solidarity from pharmacy leaders and researchers to join forces in global health partnerships that contribute to eliminating inequities in health and healthcare. Citizens of the world cannot afford to have siloed and fragmented partnerships that perpetuate global health paradigms with benefits that rarely scale, be sustained, and undermine national health systems.

Importantly, the current COVID-19 pandemic will likely lead to drastic changes in the global health landscape creating a sense of urgency to address both familiar (e.g, threat of antimicrobial resistance) and newly emerging issues at the intersection of human, animal, and environmental health (i.e., global one health). Managing the ongoing pandemic, including vaccinating the entire world when safe and effective vaccines become available will also be a monumental challenge for health leaders across the globe. Pharmacy professionals and scholars are uniquely positioned to make impact in these areas.

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