Global Learning for U.S. Primary Health Care

A Resource & Implementation Guide
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High performing health systems throughout the world are based on a strong foundation of primary health care (PHC), and lessons from across the globe can contribute to improved health and health equity in the United States. Although the notion of looking to the health care systems of other nations for ideas to bring to the U.S. is not new, recognition of gaps in performance of the U.S. health care system relative to other countries in responding to the COVID-19 pandemic has stimulated increased interest in learning from abroad.1,2

“Global Learning for U.S. Primary Health Care” proposes a framework for incorporating global learning into the ongoing efforts of health care delivery organizations and community-based organizations (CBOs) to improve health outcomes and advance health equity. The framework comprises a series of change concepts, activities, and resources intended to provide guidance to U.S. organizations that are open to global learning, but that have limited expertise and experience in global health.

Why were these guides developed?

Although there are a number of examples of U.S. organizations that have incorporated global learning in their work to improve PHC, little systematic guidance based on the experience of those organizations in applying global learning exists. While U.S. organizations apply robust quality improvement approaches and lessons from implementation science to advance their work, these methods do not typically address incorporation of ideas from other countries.

Who are the guides intended for?

The intended audience includes people in primary care delivery organizations and CBOs who do not have extensive experience and expertise in global health but who are open to seeking ideas to enhance health and health equity by applying lessons from global PHC. Guidance is also included for implementers already committed to applying global learning, including those who have identified global ideas they wish to adapt or adopt.
Where does the framework come from?

There is no established generalizable evidence base addressing methods to incorporate global learning into U.S. PHC. This framework and series of change concepts is informed by the experience of Global to Local, other U.S. implementers, and researchers who have explored application of lessons from global health to the U.S. Global to Local is a CBO whose mission is to advance health equity and improve health in U.S. communities through application of best practices from around the world. A panel of experts in primary care and application of lessons from global health in the U.S. contributed to the development of the materials.

What the guides are, and what they are not

“Global Learning for U.S. Primary Health Care” is intended to supplement, and not to replace, a delivery system’s or CBO’s ongoing approaches to implementation or improvement work. For example, material in these guides is suitable as a source of ideas for incorporation into the work of CBOs using methods such as Getting to Outcomes, or delivery systems using the Model for Improvement. In addition to providing practical guidance for incorporation of global learning to advance PHC in the U.S., the guides include additional background material and references to relevant research literature for further study. The guides do not focus on national health policy regarding important issues such as universal health care access or payment systems, despite the impact of such matters on PHC and population health.

How should the guides be used?

Although the framework and change concepts do not comprise a “cookbook” that must be followed step-by-step, the components follow a logical sequence. In order to understand the sequence and determine which elements are relevant to your organization, users may wish to apply a “Read, Reflect, Review” approach:

- **Read** the guide to better understand its content.

- **Reflect** on how your organizational approach might be modified to incorporate global learning.

- **Review** your organizational strategies, plans, and policies to identify opportunities to apply global learning strategies, ideas, or programs. The Global Learning Reflection Tool found in the Appendix can assist users in identifying how prepared their organizations are to identify and apply global learning to improve PHC for the populations they serve. The tool includes suggested activities to consider to support implementation of key changes.
The Global Learning for U.S Primary Health Care Framework

**STAGE 1**

**Incorporate a Global Perspective**
Actively incorporate a global perspective by intentionally considering lessons from abroad, and understand the range of mechanisms by which global lessons can contribute to improvement of U.S. PHC.

1.1 **Understand the “why”** | Understand the rationale for seeking lessons from other countries to improve PHC in the U.S.

1.2 **Understand the “how”** | Understand how global ideas can contribute to efforts to improve PHC in the U.S.

**STAGE 2**

**Explore Global Ideas**
Develop an understanding of the ways in which key strategies and interventions for improving PHC are implemented throughout the world, and study examples of how lessons from global health have been applied in the U.S.

2.1 **Understand global approaches to community engagement** | Community empowerment and engagement is a key element that distinguishes PHC from primary care, and exploration of approaches to community engagement from abroad can help advance health and health equity.
   a. Acknowledge community engagement as an important component of PHC.
   b. Review key community engagement concepts through a global lens.
   c. Consider global evidence summarizing the effectiveness of community engagement in improving PHC.
   d. Review global approaches to robust community engagement.
   e. Study examples of domestic application of global approaches to community engagement.

2.2 **Scan for global approaches to integrated health service delivery** | Identification of global innovations in service delivery—both general strategic approaches, and specific programs or interventions—can inform improvements in delivery of primary care and public health services domestically.
   a. Review promising strategies and how they are implemented throughout the world.
   b. Identify global solutions to explore with communities and stakeholders.

**STAGE 3**

**Adapt & Implement Global Solutions**
Understand and apply approaches to increase the likelihood that global solutions can be successfully transferred to and implemented in the local U.S. context.

3.1 **Assess transferability** | Consider the extent to which global solutions have potential for transferability by assessing key elements of the attributes of the solution.

3.2 **Optimize for successful adoption** | Consider other relevant insights from dissemination and implementation science and diffusion of innovation theory.
   a. Review and apply appropriate approaches to adaptation.
   b. Understand the designing for diffusion model for introducing global ideas to the U.S.
   c. Learn from global approaches to implementing and scaling innovation.
Incorporate a Global Perspective

A first step in global learning is to actively incorporate a global perspective by intentionally considering lessons from abroad, and to understand the range of mechanisms by which global lessons can contribute to improvement of U.S. PHC.

All health is global health, so no bright line separates health and health care in the U.S. from that in the rest of the world. Thus, despite the fact that the health care system in the United States differs in many respects from that in nearly every other nation, health policy experts and others regularly compare our system and the outcomes it produces to those in other countries. These comparisons, produced by foundations such as The Commonwealth Fund and research organizations such as the Institute for Health Metrics and Evaluation, are well organized and easily accessible, and regularly contribute to advocacy and policy development. But frontline primary care providers and provider organizations and community-based organizations (CBOs) working to advance primary health care (PHC) delivery, health, and health equity in the U.S. do not routinely seek out best practices and strategies from abroad.

The absence of regular and systematic focus on seeking ideas from abroad is attributable to a number of factors. First, practitioners and organizations are rightfully focused on local problems, and may be committed to identifying solutions based on local knowledge and experience, or on the knowledge and experience of similarly situated organizations or communities. Second, it may be difficult to imagine how experiences of those working in very different contexts, particularly in low- or middle-income countries (LMICs), might be applicable in domestic environments. Finally, in the normal course of business, they may be less likely to be exposed to ideas and solutions identified abroad than to the work of domestic peers through local networks, or to information found in domestic publications or circulated by domestic professional associations.

While passive or coincidental exposure to global ideas certainly occurs, the likelihood of identifying helpful ideas from abroad can be significantly enhanced by actively committing to incorporate a global perspective into efforts to improve PHC. The will to make such a commitment, though, may be dependent on finding answers to two questions. First, what is the rationale for seeking lessons from global health to improve PHC in the U.S.? Second, how can global ideas contribute to efforts to improve PHC in the U.S.?
What do we mean by “lessons from global health”?

Power in the Global Health ecosystem and in its previous iterations as international health and tropical medicine has been largely held by funders, agencies, and institutions from high-income countries (HICs) in the Global North. There is an emerging understanding that the structural disadvantage and devaluation of the roles of LMICs in the Global South has its roots in and reflects the persistence of centuries of colonialism and supremacist practices of the Global North. As a result, there are growing calls to decolonize the Global Health enterprise.

In this document, the term “lessons from global health” is not intended to refer to lessons from Global Health writ large. Rather, it respects the intellectual and practical contributions of individuals and communities from throughout the world who have identified creative and innovative solutions to local problems, often in the face of constrained resources. While it is not always possible to disentangle the tentacles of Global Health and its agents from these contributions, it is critical to respect the achievements of idea originators and implementers representative of and deeply embedded in the communities they serve. Work conducted in the U.S. certainly has a place in discussions of global health, but in this document we will focus primarily on ideas and practices implemented in other countries.

In an essay visualizing a future decolonized global health, Drs. Seye Abimola and Madhukar Pai write, “In our reimagined world, the traditional mindset in global health—that expertise flows from HICs to LMICs—is a thing of the past. ... There is no dependence, only mutual learning.” “Global Learning for U.S. Primary Health Care” strives to learn from LMICs, as well as from disadvantaged populations in HICs, in a spirit of mutual learning rather than non-reciprocal extraction.
1.1 Understand the “why”

Understand the rationale for seeking lessons from other countries to improve PHC in the U.S.

Despite spending far more per capita on health care than other countries, Americans experience poorer health and greater avoidable mortality than residents of many other nations. In the U.S., the burdens of adverse health outcomes fall disproportionately on the poor, members of racial and ethnic minorities, and the under- or uninsured.

The causes for the disproportionate impact of poor health outcomes among the most vulnerable are many and complex and extend far beyond access to and delivery of health care. The COVID-19 epidemic has provided yet another stark demonstration of the powerful influences of social determinants of health, such as living circumstances and working conditions more likely to be experienced by racial and ethnic minorities and the poor, on the risks of becoming ill, being hospitalized, and dying from the disease. In order to achieve health equity, factors such as deeply embedded systemic and structural racism and economic inequality must be addressed on a broad, multisectoral, societal level.

Although health care providers and delivery systems cannot solve these problems alone, they can play an important role in collaborating with community members to accelerate progress.

In 2020, The Commonwealth Fund Task Force on Payment and Delivery System Reform identified strengthening primary care as one of six key imperatives for U.S. health care:

“Evidence shows that a strong foundation of primary care is associated with better health outcomes, greater equity, and lower per capita costs. Yet the primary care system in the U.S. often falls short, especially for people of color, women, individuals with low income, and rural residents. The Task Force envisions a team-based primary care system for the 21st century, one that is untethered to a clinician’s office, tech-enabled, and fully capable of addressing behavioral health and social needs.”

Few mission statements, strategic plans, analyses of opportunities and threats, or landscape assessments of U.S. organizations identify global learning as a key priority. So why seek lessons from global health to improve PHC in the U.S.? As shown in examples throughout this guide, organizations large and small that have been open to applying creative ideas from other countries have identified a broad range of beneficial and cost-effective solutions to local problems. Innovative approaches to community engagement and empowerment can help identify new solutions for intractable problems. Organizations serving immigrant communities can create stronger connections with those populations by collaborating to identify and apply effective solutions from their home countries.
In its 2021 report titled *Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care* the National Academy of Sciences, Engineering, and Medicine similarly noted that, "People in countries and health systems with high-quality primary care enjoy better health outcomes and more health equity." Although effective health care systems in many other countries organized around strong PHC differ substantially from the U.S. in structure and financing, they may nevertheless provide important insights about how to organize, structure, and provide care for Americans. In particular, LMICs have much to offer the U.S., especially to those caring for low-income and vulnerable populations.

**The distinction between “primary health care” and “primary care”**

Health is primarily driven by factors other than delivery of medical care. Recognition of this reality is embedded in the notion of PHC as understood throughout the world. What is PHC, and how can lessons from global health about PHC contribute to improved health of vulnerable populations in the U.S.?

In an update to the 1978 Declaration of Alma-Ata, the World Health Organization’s (WHO) 2018 Declaration of Astana affirmed a global consensus that "strengthening primary health care (PHC) is the most inclusive, effective, and efficient approach to enhance people's physical and mental health, as well as social well-being."

Primary care, particularly as implemented in the U.S., typically focuses on services delivered to individuals, while the more expansive notion of PHC emphasizes health and well-being of individuals and communities.

**Community-oriented primary care in the U.S.**

There is a long history of efforts in the U.S. to implement “community-oriented primary care” (COPC), a model that includes much of the community orientation embedded in the PHC concept. The COPC model was first developed by Sidney and Emily Clark in rural Pholela, South Africa in the 1940s and 1950s, and later refined by the Karks in Israel. Elements of the COPC model were first applied in the U.S. in 1955 by a team from Cornell working with the Navajo Nation, followed several years later by projects in Appalachia and East Harlem. The COPC model influenced the establishment of Federally Qualified Health Centers (FQHCs), but among

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**FIGURE 1**

The Components of Primary Health Care

"Primary health care' is an overall approach which encompasses the three aspects of: multisectoral policy and action to address the broader determinants of health; empowering individuals, families and communities; and meeting people’s essential health needs throughout their lives. ‘Primary care’ is a subset of PHC and refers to essential, first-contact care provided in a community setting.”

Source | WHO and UNICEF
community health centers today there is substantial variability in the extent to which all of the elements of COPC are implemented. And outside of community health centers, little primary care in the U.S. is delivered in a manner consistent with the COPC model.

Obstacles such as the U.S. health care financing system and lack of training and public health orientation among physicians have been cited as explanations for the relative demise of COPC in the U.S.\textsuperscript{19} In recent years, however, the evolution of health care financing and other incentives in the Affordable Care Act have provided a stimulus to revisit the application of COPC.\textsuperscript{20}

By and large, though, despite the rich history of applying lessons from abroad to improve primary care in the U.S., there has been little systematic focus on continued learning from other countries. Nevertheless, representatives of primary care delivery systems who have explored COPC implementations in other countries more recently have concluded that such exploration can yield valuable guidance for U.S. implementers. For instance, authors from a safety net system in Bronx, New York, described lessons for U.S. PHC gleaned from site visits to four COPC-practicing community clinic sites serving disadvantaged populations in Barcelona, Spain.\textsuperscript{21} They concluded that effective implementation of COPC in the U.S. would likely benefit from transfer of the locus of control and authority from primary care delivery organizations that currently hold such control to CBOs—a concept discussed in further detail in a subsequent section.
1.2 Understand the “how”

Understand how global ideas can contribute to efforts to improve PHC in the U.S.

Examples from global health can influence the work of organizations in the U.S. in many ways. In some cases, U.S. implementers may consider adopting or adapting a **specific program, product, or tactic** that was developed in another country for local use. Typically, the specific intervention is a creative innovation that addresses a problem for which existing domestic solutions are not working well, or have not been identified. For instance, the Friendship Bench is a program developed in Zimbabwe that trains lay workers to deliver care to people with mild to moderate behavioral health disorders. A primary driver for the development of the Friendship Bench was lack of access to professional mental health workers—a circumstance present in many U.S. communities as well. In Zimbabwe, the lay workers are primarily grandmothers who deliver a talk therapy intervention customized for the local language and culture. The Friendship Bench model was adapted for implementation by peer counselors and community health workers (CHWs) in New York City as part of ThriveNYC, a city-sponsored mental health initiative.

A second way in which global ideas can contribute to domestic efforts is through application of a **general strategy or approach** drawn from another nation or group of nations, but that is modified for use in significant ways when implemented in the U.S. For instance, CHW programs are a core component of strong PHC systems in many countries, and are now widely used in the U.S. Most CHW programs in the U.S. are not intentionally modeled on specific CHW programs in other nations. However, a number of domestic programs have applied general principles of successful CHW programs in other countries to different conditions and populations from the ones in which those principles were developed. Later in this guide, we provide examples of a series of global health strategies, particularly those effectively deployed in low resource settings, that are potentially transferable to the U.S. One such strategy has been adapted for use in the U.S. by Partners in Health (PIH), a global health organization that has worked throughout the world to deliver high quality health care to vulnerable populations. PIH has adapted an “accompaniment” model developed for CHWs in several LMICs for application in the U.S. For instance, applying a model based on the accompaniment approach used in Haiti, the Prevention and Access to Care and Treatment (PACT) program employed CHWs to address medication adherence, health education, health care navigation, and access to behavioral health services to people with HIV/AIDS in Boston.

Even when specific interventions, clinical programs, or approaches from other countries are not directly transferable to a local problem, creative solutions—particularly those developed with limited resources that have overcome formidable barriers—can provide **inspiration** to U.S implementers. Such inspiration has stimulated health care providers and CBOs to design new and different ways of addressing locally identified concerns. Since 2005, the
Community Partnership for Health Equity program of MEDICC, a U.S. non-profit, has facilitated visits to Cuba from leaders serving low-resourced and vulnerable communities in the U.S. A primary purpose of those visits is to stimulate critical thinking in order to identify creative solutions to local concerns rather than to encourage adoption of specific programs. The Cuban context is considerably different from that in the U.S., and those differences pose challenges for transferability of many specific interventions as they are implemented in Cuba to most U.S. communities. Nevertheless, MEDICC-facilitated visits have inspired participants to launch a variety of health promotion, disease prevention, and primary care-public health integration programs.

It is certainly the case that a single global health intervention can at the same time provide inspiration, be an exemplar of a general strategy, and can serve as a specific program model that needs little adaptation for application in a U.S. community (Figure 2). But it may be useful to think of these roles differently, as the extent to which context—health care system design, culture, health care financing, clinical conditions and resources, etc.—differs among countries can have a significant impact on the extent to which specific programs or interventions can, or should, be transferred to other settings.

The evolution of the CBO Global to Local provides one example of how incorporation of a global perspective can contribute to the development of culturally acceptable programs to meet the needs of an underserved population in the U.S.

Global to Local

A number of organizations in the U.S. have looked to other countries for inspiration, strategies, or tactics to enhance their efforts to improve health for vulnerable populations. Most, however, have been associated with existing health systems, academic institutions, government agencies, or other entities whose predominant focus is not on global learning. Few CBOs in the U.S. have been established for which application of lessons from global health is a primary driver. One exception is Global to Local (G2L), a CBO located in South King County, Washington. Its mission is to advance health equity and improve health in U.S. communities through application of best practices from around the world.

G2L was established in 2010 by a multi-sectoral partnership to explore the extent to which lessons from global health could be applied to improve health among communities experiencing health disparities. Inspired by the examples of innovative, and often low-cost, approaches to improving individual and community health in low-resourced environments around the world, experts in global health, local public health, and health care delivery teamed with community leaders to identify opportunities for collaboration.
Over the course of a decade, G2L developed globally-inspired programs tailored to two culturally diverse, economically disadvantaged communities—SeaTac and Tukwila—in south King County, Washington. Through application of innovative, community-driven solutions to address health and economic development disparities, G2L launched a number of programs tailored to meet the needs of the community outside a doctor’s office. Today, G2L operates community health worker programs that help people navigate the health system, a Food Innovation Network that provides access to healthy foods and hosts an incubator program for food businesses owned by immigrant and refugee women, and a Connection Desk that connects clients with health and human services. Inspired by examples of community engagement across the globe, G2L convenes a group of community-based organizations working to enhance equity and reduce disparities and develop advocacy and leadership skills among people who have not had a seat at civic tables.

Efforts to advance PHC and improve health equity in the U.S. can be inspired by approaches from other countries, informed by general strategies and approaches pioneered abroad, or supported by adoption or adaptation of innovative programs or interventions conceived and implemented elsewhere in the world. Application of global learning need not require wholesale replacement of existing methods and approaches to solving local problems, but an active commitment to incorporating a global perspective can enhance efforts to improve PHC in the U.S. For those with such a commitment, the next section provides resources and guidance on how to identify global solutions to address local needs.
H. Jack Geiger, M.D., M. Sci. Hy. (1925-2020) was one of the founding fathers of the community health center movement and the concepts of community-oriented primary care (COPC) and social medicine in the United States. His perspective was deeply influenced by his experience providing primary care in South Africa. Throughout his career, Dr. Geiger encouraged others to bring learning from other nations home to the U.S.

“When I was a third-year medical student in 1994, Jack Geiger suggested that I go to El Salvador to learn about Community-Oriented Primary Care that integrates public health and primary care. He said he wanted the community health centers in the U.S. to be more community-oriented and wanted me to see what big “C” COPC looked like. There, I helped build [both] bridges over rivers that drowned children and kindergartens that taught kids how to brush their teeth. As a third-year family medicine resident, he reminded me to do what the community wanted, even if it were outside my role as a physician.”

— A. Seiji Hayashi, MD, MPH, FAAFP
  • Chief Transformation Officer and Medical Director, Mary’s Center
  • Former Chief Medical Officer, HRSA Bureau of Primary Health Care, U.S. Department of Health and Human Services (2009–2015)
2.1 Understand global approaches to community engagement

Community empowerment and engagement is a key element that distinguishes PHC from primary care, and exploration of approaches to community engagement from abroad can help advance health and health equity.

Key steps

a. Acknowledge community engagement as an important component of PHC

“Empowered people and communities” is one of the three primary components of PHC (Figure 1). Even though the PHC model as envisioned by the Alma Ata and Astana declarations has not been broadly adopted in the U.S., there is longstanding and growing recognition of the importance of assuring robust community empowerment and engagement. The Commonwealth Fund Task Force on Payment and Delivery System Reform highlighted this element as one of six key focus areas needed to improve the U.S. health care system:

“Support the empowerment and engagement of people, families, and communities. Partnerships between providers, patients, and their communities are essential to ensuring our health system offers high-quality care, achieves value, and reverses longstanding racial and ethnic disparities. The Task Force recommends engaging patients, family caregivers, and communities in codesigning new delivery models and policies, in confronting and combatting racism in health care, in promoting availability of digital tools and telehealth services, and strengthening policies to protect the privacy and security of patients’ personal information.”

Dr. Jack Geiger encouraged Dr. Seiji Hayashi to look abroad to learn how communities and health systems can partner to improve health. Such advice reflected the recognition that in the U.S., communities are not always engaged and empowered with and by primary care delivery organizations, and that lessons from other countries could contribute to advancement of health and health equity. Acknowledgement of this reality is a first step in moving beyond a focus on delivery of health services by professional caregivers, and toward a system of PHC capable of addressing social determinants of health as well as medical care.
b. Review key community engagement concepts through a global lens

A myriad of related terms—community engagement, community participation, community empowerment, community involvement, and many others—have been used to characterize public participation in efforts to improve health and health care. To add to this complexity, numerous definitions have been proposed for each of these terms. A full exploration of definitions of and approaches to community engagement is far beyond the scope of this guide. But in order to consider the potential contributions of global learning to community engagement efforts here in the U.S., it may be helpful to review a few important concepts.

TABLE 1
Selected Definitions of Community Engagement

<table>
<thead>
<tr>
<th>Definition</th>
<th>Source</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>The process of working collaboratively with groups of people who are affiliated by geographic proximity, special interests, or similar situations with respect to issues affecting their well-being.</td>
<td>U.S. Federal health agencies (Centers for Disease Control and Prevention (CDC), Agency for Toxic Substances and Disease Registry (ATSDR), and National Institutes of Health (NIH))</td>
<td>Developed by CDC and ATSDR committee for publication in <em>Principles of Community Engagement</em> (1st edition 1997; reaffirmed in 2nd edition 2011)</td>
</tr>
<tr>
<td>A process by which people are enabled to become actively and genuinely involved in defining the issues of concern to them, in making decisions about factors that affect their lives, in formulating and implementing policies, in planning, developing and delivering services, and in taking action to achieve change.</td>
<td>WHO Regional Office for Europe</td>
<td>Definition of “community participation” for WHO Healthy Cities initiative (2002)</td>
</tr>
<tr>
<td>Involving communities in decision-making and in the planning, design, governance, and/or delivery of services. Community engagement activities can take many forms, including service-user networks, health care forums, volunteering, or interventions delivered by trained peers.</td>
<td>University College London Institute of Education, London, UK.</td>
<td>Definition arising from a systematic review and meta-analysis of community engagement to reduce inequalities in health conducted by the Social Science Research Unit (2015)</td>
</tr>
<tr>
<td>Community engagement is a process of developing relationships that enable stakeholders to work together to address health-related issues and promote well-being to achieve positive health impact and outcomes.</td>
<td>WHO Regional Office for Africa and WHO Headquarters</td>
<td>WHO Technical Workshop tasked with developing a community engagement framework for quality, people-centered, and resilient health services, synthesizing lessons learned from 2014 Ebola epidemic. (2017)</td>
</tr>
</tbody>
</table>
Four definitions of community engagement or community participation—two from WHO, one from U.S. health agencies, and one from an academic institution in the U.K.—are shown in Table 1. By some of these definitions—those describing engagement as “working collaboratively” or “working together”—nearly every U.S. primary care delivery organization or CBO achieves some level of engagement with the communities they serve. But researchers and implementers from across the world have recognized that all “engagement” is not equally meaningful. Various models describe a continuum of “engagement” bounded at one end by passive receipt of information and at the other by full control in the design, governance, and implementation of interventions by the affected population.

One of the seminal formulations summarizing this continuum is Arnstein’s “Ladder of Citizen Participation” (Figure 3). Originally developed in the context of the Federal Model Cities initiative in the 1960s to distinguish between three tiers of participation in urban development programs, it has been widely applied to assess community engagement across the world, including in LMICs.\textsuperscript{35,36}

The eight rungs in Arnstein’s ladder are grouped into three broad categories. The lowest is nonparticipation, in which members of the public are either manipulated in some way (such as being appointed to advisory groups that have no real authority but are expected to rubber stamp decisions made by others), or are nominally involved in a process but are primarily seen as cases of some pathology that requires treatment. The next tier—tokenism—including unidirectional information sharing, consultation with opportunity to provide some input, or placation that offers community members the possibility of influence but no real decision-making authority. The citizen power tier includes three rungs—partnership that offers opportunities for meaningful negotiation, delegated power that cedes the majority of decision-making authority to community members, and citizen control reflected in full authority for governance and resource allocation.

Although Arnstein’s ladder is still widely used to describe the extent of community participation in health and human services initiatives, dozens of public participation models have emerged in the 50 years following its publication.\textsuperscript{32} One formulation of the continuum that is commonly used across the globe is the five-stage spectrum from The International Association for Public Participation (IAP2).\textsuperscript{38} The IAP2 spectrum includes five levels of engagement (inform, consult, involve, collaborate, and empower) that map closely to the Arnstein ladder, but that are accompanied by a clear statement of goals for each level as well as transparent language describing the extent of participation and influence that community members can expect.

Regardless of which paradigm or framework one uses to describe the intensity and scope of community engagement, a fundamental—

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**FIGURE 3**
Arnstein’s Ladder of Citizen Participation

<table>
<thead>
<tr>
<th>Level of participation</th>
<th>Type of participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 - Citizen Control</td>
<td>Citizen Power</td>
</tr>
<tr>
<td>7 - Delegated Power</td>
<td>Tokenism</td>
</tr>
<tr>
<td>6 - Partnership</td>
<td></td>
</tr>
<tr>
<td>5 - Placation</td>
<td></td>
</tr>
<tr>
<td>4 - Consultation</td>
<td></td>
</tr>
<tr>
<td>3 - Informing</td>
<td></td>
</tr>
<tr>
<td>2 - Therapy</td>
<td></td>
</tr>
<tr>
<td>1 - Manipulation</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Adapted with permission from Arnstein*\textsuperscript{35}
and somewhat self-evident—principle is that community empowerment and meaningful participation is not guaranteed by simply sharing information or collecting feedback from community residents or organizations.

**Utilitarian versus social justice motivations for community engagement**

Scholars have highlighted the presence of two narratives or perspectives that form the rationale for engaging communities in efforts to improve health and health equity, and it may be helpful to be aware of these narratives when considering examining specific tactics to support community participation in health. One perspective is often referred to as *utilitarian*, in which community participation is primarily viewed as a means to an end. This perspective views community engagement as a pragmatic strategy to achieve the goals or objectives of a project. Another view—sometimes referred to as the *social justice*, *empowerment* perspective—holds that community participation is an end in itself, based on the notion that communities have fundamental rights to fairness, autonomy, and self-determination. The roots of the social justice perspective are often traced to the work of Paulo Freire, a Brazilian educator whose empowerment education theories subsequently influenced a number of social and health improvement movements.

**Engaging communities in identifying health priorities**

In reviewing existing health data for its intended service area, G2L’s founders observed that immunization rates in SeaTac and Tukwila were lower than in other parts of King County and were not adequate for optimal population protection. These findings suggested that the community, which included a large number of immigrants and refugees, was at increased risk for several vaccine-preventable diseases. Particularly given the successes of vaccine programs in many LMICs, G2L partnered with experts in global health who thought that an effort to increase immunization rates was a promising initial focus area for applying lessons from abroad to the communities in the U.S. However, when this idea was shared with members of the local community, it was not greeted with great enthusiasm. Community members identified higher priorities. In response, and in keeping with examples from LMICs of incorporation of community-identified priorities into health program planning, G2L turned its attention to those priorities and proceeded as described below.

Before considering specific examples of lessons learned from global health about community empowerment and engagement, it is worthwhile considering one final question. How are health-related priorities and needs of communities identified in the U.S., and how can approaches from other countries support equitable community engagement in identifying health needs among marginalized communities and improve PHC? The inclination of G2L’s founding partners to focus on immunizations based on evaluation of empirical data reflected an approach typically, and sometimes exclusively, used by health experts in the U.S. As much as it is an article of faith that applying findings based on empirical data collected by experts is the preferred method for identifying community needs and targets for intervention, it is not the only way that a community’s most pressing needs can be identified.
Bradshaw’s “Taxonomy of Social Needs” is a widely used framework that describes at least four paths to identifying social and health needs. Normative needs are typically based on standards or targets established by expert professionals. Comparative needs, again usually identified by professionals, are established by comparing the health status or availability of health services among different populations or communities. By contrast, expressed needs are those inferred by evaluating a community’s use of or demand for services. Finally, felt needs are based on what people say they want, informed by lived experience rather than by data collected and analyzed by a third party.

These approaches, of course, are not mutually exclusive, and some needs can be identified using several, or even all, of the methods. The low immunization rates identified early in G2L’s history were both normative needs, as coverage rates were lower than optimal to protect individuals and the community, and comparative needs, as rates were higher in other parts of the county. But based on the initial reaction of community stakeholders, and inspired by examples from LMICs, G2L pivoted to focus on identifying felt needs and expressed needs by posing a simple question to members of the community it aspired to serve: “What makes it hard to be healthy in this community?” G2L staff hosted community conversations in school auditoriums, chatted with families at the local mall, and built trusting relationships with leaders of local mosques, churches, and community groups.

These conversations identified a broad range of needs felt by the community. Community members identified a number of factors that made it hard to be healthy. They spoke of difficulty navigating through a complex health system, a lack of safe and culturally appropriate places to exercise, challenges in accessing social services, limited access to healthy foods, and barriers to economic opportunity. Based on these discussions, G2L staff collaborated with residents to develop a number of programs. One such program, the Food Innovation Network, directly addressed two key community-identified needs: access to healthy foods, and economic opportunity.

**Food Innovation Network**

Beginning in 2010, global health experts advising G2L encouraged staff to explore implementation of microfinance programs, such as that pioneered by the Grameen Bank, as a means to implement the global health strategy of improving health by advancing economic development and wealth. G2L staff reached out to community stakeholders, who agreed that economic development was important. However, their initial reactions regarding the development of a microloan program by G2L were not enthusiastic. While access to capital was seen as important for small business development, assistance with understanding regulatory and licensing issues, insurance requirements, and taxes—all of which are more complex in the U.S. than in low-income countries in which microcredit was key to launching businesses—were even greater barriers to overcome.

Recognizing the need to move beyond microcredit as an approach, G2L turned to another general global health strategy—community mobilization and leadership development. Through a series of focus groups, semi-structured interviews, and community cafes conducted over a six-month
period, it became apparent that there was significant interest among community members in starting food businesses.

Many residents of SeaTac and Tukwila were immigrants or refugees who had some experience in their country of origin running small food-based businesses; others had a strong cultural attachment to their country’s foods that they wanted to share. Community members felt that by starting a food business, entrepreneurs could both build a sustainable livelihood and improve access to a variety of foods in their community. Aspiring entrepreneurs, however, faced a number of barriers: limited understanding of regulations governing food businesses, unfamiliarity with processes and requirements for launching a business, as well as limited ability to finance business development.

As these discussions were taking place, several CDC-funded food access programs facilitated by the county health department were underway in King County. A core group of local institutions, schools, and businesses had been activated around efforts to improve food access in SeaTac and Tukwila. After the grant funding ended, G2L convened local organizational stakeholders to continue discussions about developing a healthy food economy in the community.

Recognizing that direct resident participation had been largely absent from earlier conversations, G2L engaged a community member to deepen the community engagement effort and better understand community desires and needs related to starting food businesses. Njambi Gishuru, an immigrant and an entrepreneur herself, organized meetings at local churches and mosques, with cultural organizations, and with community groups. Njambi easily gained the trust of the community members she met. This was a turning point for the work, as it started to clarify specific barriers that people faced in starting a business.

Over the next several years, the Food Innovation Network (FIN) was established, led by a community-based steering committee comprised of aspiring entrepreneurs and other community members. Community-based “food advocates” and organizational partners conducted exercises using two equity-focused assessment tools to develop a guiding vision for FIN that focused on reducing health and economic disparities. The vision ultimately led to the development of two major programs—an incubator program to support development of food businesses, and a food access program that provides access to healthy produce through farmers’ markets and food distribution programs. In 2020, the culmination of the vision of FIN’s early community stakeholders was realized with the opening of Spice Bridge, a food hall that provides immigrant and refugee food entrepreneurs participating in the incubator program with a commercial kitchen and retail space to launch their businesses and to share culture and cuisine from their native countries with the community. The food access program has enhanced PHC by providing nutrition education and making healthy foods accessible to people with diabetes and other chronic conditions.

While FIN’s programs were not directly based on a specific program developed elsewhere in the globe, the process leading to its development intentionally began with the application of strategies to improve health reflected in WHO’s vision for PHC—supplementing primary care delivery by empowering people and communities and encouraging multi-sectoral collaboration. Further, the methods used to engage community members, and the development of a community member-led steering committee to design and implement FIN’s programs, were intentionally inspired and informed by experience in LMICs.
c. Consider global evidence summarizing the effectiveness of community engagement in improving PHC

Systematic reviews and meta-analyses of the impact of community engagement among disadvantaged populations in the Global South and Global North have highlighted its effectiveness in improving a variety of health-related outcomes and behaviors. The impact of community engagement is greatest when there is meaningful participation in the delivery of interventions. Community engagement was typically less effective in health promotion initiatives when engagement was limited to unidirectional information sharing in the absence of meaningful input into intervention design.

George and colleagues reviewed 260 examples of community participation in health-related interventions in LMICs, predominantly from sub-Saharan Africa, but with significant representation from South Asia, East Asia and the Pacific, and Latin America and the Caribbean. They found that while nearly all included community participation in implementing interventions, and half included community participation in identifying and defining interventions, only 18 percent were involved in identifying and defining problems. The high proportion of interventions in which communities were involved in implementation (95 percent) can serve as an example for U.S. implementers that meaningful community participation in the delivery of health system interventions is an achievable goal.

d. Review global approaches to robust community engagement

In the U.S., perhaps the most widespread and systematic manifestation of an organized approach to community engagement in primary care delivery is found in the requirement that at least 51 percent of Federally Qualified Health Center board members must be registered consumer users of the center. This mandated governance role is often cited as evidence of meaningful community empowerment, and it is undoubtedly effective in providing a strong consumer voice in the operations of many health centers. However, research has identified significant variability in the extent to which the consumer board representatives reflect the typical user, hold board leadership positions, and drive strategy based on community input. Some health centers supplement the role of boards by establishing patient advisory councils (PACs) that are complementary to the governance roles of consumer board members; PACs focus more on improving clinical operations while boards focus on strategy, finances, and general oversight. Although few rigorous studies evaluating the impact of community participation on health facility boards in LMICs have been conducted, those studies have found that such participation can have positive impacts on clinical outcomes. While consumer participation in health facility governance can add value, community health centers and other delivery systems may benefit from exploring other mechanisms used elsewhere to engage and empower communities.

Across the world, many structures and approaches are applied to assure community voice and participation in health. These structures include community advisory boards, village health committees, community health management committees,
as well as groups not solely focused on health such as religious organizations or women’s groups. A few representative examples are shown in Table 2. While none of the examples could be implemented “as is” in the U.S., familiarity with such structures may inspire creative modifications to current U.S. approaches.

<table>
<thead>
<tr>
<th>Country</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>Established in 1999, Ghana’s Community-based Health Planning and Services (CHPS) program was introduced as a key component of the country’s primary health care strategy. As the program evolved, particular emphasis was placed on engaging local communities in geographically defined CHPS compounds. Community health nurses designated as Community Health Officers partner with Community Health Volunteers and Community Health Management Committees (CHMCs) to assure local access to preventive, promotive, and curative health services. CHMCs are composed of respected community elders and opinion leaders identified by tribal elders and chiefs and facilitate bidirectional information sharing between CHPS staff, volunteers, and the community, often at durbar gatherings attended by traditional chiefs and political leaders, elders, and all residents.</td>
</tr>
<tr>
<td>Chile</td>
<td>Chilean law requires community participation in the design, implementation, and evaluation of health programs and policies. This participation is realized through a variety of mechanisms, ranging from formal citizen health councils that participate in the design and implementation of programs to address social determinants of health to youth committees co-designing programs to reduce risky behaviors among adolescents. A recent analysis of community participation in Chile’s health system identified a variety of practices and tools that could be adapted in other countries. Examples include creative approaches and explicit efforts to include marginalized populations, such as people with disabilities and immigrants, in formal and informal councils, committees, and processes; co-design and co-production of health education materials for special populations, and designing participatory approaches that respect the value of various types of knowledge, experience, and expertise.</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>The health care system in Costa Rica is among the most effective and efficient in the world, producing excellent outcomes at modest cost. It is designed around a strong foundation of PHC incorporating substantial community participation, and guided by principles of universality, solidarity, and equity. Cost Rica is divided into seven health service delivery regions, each of which is further divided into approximately a dozen “health areas” roughly equivalent to counties. Health areas are served by five to 15 Equipos Básico de Atención Integral de Salud (EBAIS, or basic integrated health care team), each of which is responsible for a geographically defined empaneled population. The teams consist of a physician, nurse, technical assistant, medical clerk, and pharmacist. The technical assistant, or Asistente Técnico en Atención Primaria (ATAP), is trained to serve as a CHW, to conduct home visits that include health and environmental risk assessments, and to provide services such as immunizations. Importantly, the ATAPs are deeply connected to the communities they serve, and serve as important links to assure that community needs are communicated to the health system. Residents of health areas are represented by Juntas de Salud—community health boards that meet regularly to solicit feedback from the community to inform local health programming. In addition to promoting community participation in the Health Area, they keep the Health Area accountable for its actions. Every two years, Health Area officials conduct a formalized comprehensive health needs assessment and present the results to the community in public meetings for feedback. This feedback is incorporated into the future design and implementation of health programs for the community.</td>
</tr>
</tbody>
</table>

Continued on the following page
Australia  As is the case in the U.S., Indigenous populations in Australia experience significant health disparities with respect to the majority population. One approach to addressing disparities among Aboriginal people in Western Australia has been the development of a community engagement strategy operationalized through District Aboriginal Health Action Groups (DAHAGs). DAHAGs were formed after extensive consultation and planning with local Aboriginal people and community groups. The groups are responsible for local level decisions and actions related to the design and delivery of health services in five districts. The emphasis of the DAHAGs is on action rather than simply on consultation. The groups are comprised of up to 10 community members per district nominated by the community. Although health service providers and a public health service representative are on the teams, DAHAGs are chaired by community members. Community members are compensated for their participation. An external evaluation found strong evidence that participation of community members as key players and drivers of decisions, rather than as recipients of care delivered by a system in which prioritization and decision-making regarding service delivery was top down, was associated with improvement in local health service delivery for the Aboriginal population.63

In “Shaping Health,” a recent study of local health systems in thirteen countries, Loewenson and colleagues at the Training and Research Support Centre (TARSC) identified ten key messages regarding the value and effectiveness of community participation in health (summarized in Table 3).64 The synthesis report describing the study expands on the key messages noted in the table, and provides a number of tools and practical examples of ways in which U.S. implementers working to enhance PHC can mobilize communities to participate in improvement of health and health services.

### TABLE 3
**Key Messages from the Training and Research Support Center’s “Shaping Health” 13-Country Project Exploring Social Participation in Local Health Systems**

1. Participation is integral to health improvement, intrinsic to people’s identity, and a reflection of values, rights, equity, and social justice.

2. The lived experience and knowledge of communities, community activism, and leadership are key triggers and drivers of participatory practice.

3. Participatory processes and social power in health are more likely to flourish when grounded within community settings, such as schools, markets, workplaces, sports, and traditional gatherings.

4. Social participation and power are supported by and elicit more holistic models of health, in people-centred, population health and comprehensive PHC approaches that work with other sectors on health.

5. Informal and formal spaces and processes both play key roles in participation. The two-way interactions between them enrich both.

6. Sharing information and participatory processes to gather, analyse, discuss, and use community evidence and knowledge in planning are necessary (but not sufficient) for meaningful social participation.

7. Community involvement in accessible processes for decision-making that link and lead to shared plans, actions, and resources are central to meaningful participation.

8. Institutional and individual facilitators play a critical role.

9. Deepening participation takes time, consistent presence, and capacities to let models evolve, to identify how best to contribute, to embed mentoring and capacity building, and enable horizontal connections and spread across communities.

10. Strategic review and evaluation can track and show diverse forms of progress in health and social outcomes and build learning from action.

**Source** | Adapted with permission from Loewenson et al.64

* Australia, Canada, Brazil, Chile, Ecuador, India, Kenya, New Zealand, Scotland, Slovenia, USA, Vanuatu, Zambia
Community health workers: A highly effective strategy for community engagement

CHWs—trusted frontline health workers who are members of or closely connected to the communities in which they work to address a broad range of health-related needs—are deployed throughout the world. CHWs both reflect and promote community engagement, and have been shown to be effective in improving outcomes for an array of conditions throughout the lifespan, ranging from reduction of childhood mortality to improvements in non-communicable diseases affecting middle-aged adults and seniors.65,66

Although not quite ubiquitous in the U.S., CHWs are now widely deployed throughout the country. Some estimates place the number of CHWs in the U.S. as greater than 175,000, a number likely to grow considerably if President Biden’s commitment to increase that number by 150,000 is realized.67 Further, as the U.S. health care financing system moves from rewarding volume to rewarding value, opportunities for sustainable financing for CHW programs are reducing barriers to further growth of the CHW workforce.68

But CHW programs in the U.S. can trace their origins to innovations developed and implemented across many LMICs, beginning in China in the 1920s as predecessors of that country’s barefoot doctors program. Since that time, large scale CHW programs have been implemented across Africa, South and East Asia, and Latin America.69 With a rich history marked both by successes and challenges, lessons from CHW programs around the world have much to offer the U.S., even as CHWs have been widely and successfully deployed domestically.

There is, of course, no single ideal model for the design of CHW programs, and the differing contexts in which such programs are implemented makes it likely that the precise designs of few CHW programs from LMICs can be adopted en bloc in the U.S. However, studying the experience regarding successful programs throughout the world can be helpful in either launching new CHW programs in the U.S., or refining those that currently exist. A 2018 WHO guideline for CHW programs provides recommendations regarding topics such as selection, training, remuneration, supervision, and methods to determine target service population sizes for CHWs.70 A team of practitioners associated with six highly effective CHW programs from LMICs outlined a series of design principles and operational guidelines that summarizes important lessons that can inform the design of CHW programs in the U.S.71

“When these [health] disparities are brought into sharp relief, as is the case in North America right now, they can serve as a rallying point for bringing experience derived from global health back to what some might call “home”—in my case, the United States. For example, the notion of relying on community health workers for contact tracing or accompanying patients with chronic disease has been worked out (and practiced) much better in places like Rwanda than in the United States. Much of P[artners] I[n] H[ealth]’s recent Covid-19 work in the latter, from Massachusetts to Immokalee, Florida, has been based on lessons learned in Rwanda, Haiti, Liberia, Sierra Leone, and elsewhere; indeed, some of it is being led by colleagues from those countries.”

— Paul Farmer, MD, PhD72
e. Study examples of domestic application of global approaches to community engagement

As shown in the examples below, lessons from global health have contributed to domestic efforts to advance health and health equity through community engagement.

Applying insights from global health to the Navajo Nation Community Health Representative program

Insights gained from CHW programs in LMICs can contribute to strengthening of even well-established community health programs in the U.S. The Navajo Nation Community Health Representative (CHR) program, established in 1968 and managed by the tribe’s Department of Health, delivers culturally appropriate health promotion, health education, and community-based care to over 200,000 people on and near the Navajo Nation through a network of over 100 trained community-based health workers. In 2009, the tribe entered into a partnership with Partners in Health (PIH), a non-governmental global health equity organization, resulting in the establishment of the Community Outreach and Empowerment (COPE) Program, a Native-controlled non-profit CBO.

Following PIH’s “public sector accompaniment” model, COPE focused on collaborating with the existing Tribal and Indian Health Service public sector systems rather than developing parallel or alternative models. Informed by PIH’s capacity building model developed through experience in Haiti, Peru, Rwanda, and other LMICs, COPE worked to better integrate CHRs with clinic-based providers, and to strengthen the role of CHRs within the communities they served by implementing three strategies. These strategies focused on enabling referrals by providers of patients at high risk for complications from chronic conditions; supporting a standardized community-based patient accompaniment approach; and increasing bi-directional communication between clinic-based providers and CHRs by approaches such as providing CHR access to provider electronic health record systems. The PIH participants brought to the project their organization’s CHW accompaniment perspective, which emphasizes “walking with a patient through a journey” and supporting vulnerable patients, rather than simply monitoring or policing compliance. The COPE intervention to support better integration of the CHR program with the primary care delivery systems was associated with improvements in glycemic control and lipid levels among diabetic patients served by the program.

Applying a community engagement approach from Africa to enhance health system and community collaboration: Baltimore CONNECT

Many models and approaches are used by health care delivery organizations and health systems in the U.S. to engage community partners. An approach used in Baltimore to form a partnership linking the Johns Hopkins health system with local CBOs was heavily influenced by a model developed in sub-Saharan Africa—the WHO African Partnerships for Patient Safety Community Engagement Approach (ACE). Although the approach was originally developed to support community
engagement to advance patient safety in Africa, it was adapted to establish connections between an academic health center and local community, faith-based, and neighborhood organizations. **Baltimore CONNECT** (Community-based Organizations Neighborhood Network: Enhancing Capacity Together) is a collaborative partnership striving to improve health and health equity among Baltimore City residents by addressing a number of social determinants of health.

The original key ACE principles are shown in Table 4. In Baltimore, the health system convened a group of community leaders and representatives at the inception of the work to serve on an advisory board prior to seeking funding for a proposal to test adaptation of the ACE model. Community leaders nominated by stakeholders served as co-principal investigator and co-investigator for the original grant proposal that funded a research project. Over a six-month period, the team co-designed an intervention, and incorporated community advice and knowledge based on extensive outreach and communication. One key feature of the project was the activation of community-based “knowledge brokers”—intermediary individuals or organizations that cultivate relationships and support knowledge exchange between health care professionals and members of the communities served. Although the specific application of knowledge brokers in Baltimore CONNECT differed from that in the WHO Africa patient safety initiative (namely, to share patient safety knowledge among hospitals and local thought leaders), the ACE strategy was adapted to facilitate authentic and genuine engagement of community members in the design and delivery of the interventions.

Although Baltimore CONNECT was originally developed as part of a research study, the academic-community partnership has been sustained long after the completion of the study. Today, Baltimore CONNECT is a thriving network of CBOs that link community members with comprehensive and coordinated health and human services to address client physical and behavioral health, care coordination, and transportation needs.

**TABLE 4**

<table>
<thead>
<tr>
<th>Key Elements of African Partnerships for Patient Safety Community Engagement Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Community Engagement Advisory Board</td>
</tr>
<tr>
<td>Know the Community</td>
</tr>
<tr>
<td>Establish an Enabling Community Engagement Environment</td>
</tr>
<tr>
<td>Raise Patient Quality/Safety Awareness Locally and Nationally</td>
</tr>
<tr>
<td>Collect Community Knowledge and Experiences</td>
</tr>
<tr>
<td>Ensure Robust Communications Mechanisms</td>
</tr>
<tr>
<td>Feed into Monitoring and Evaluation</td>
</tr>
<tr>
<td>Develop a Community Ripple Effect</td>
</tr>
</tbody>
</table>

Source: Ibe et al.28 *(CC-BY-4.0)*
Inspiration from Cuba
Health Care Provider-Community Resident Walking Groups to Deepen Understanding of Barriers to Health Facing Disadvantaged Populations

In 2012, a delegation of New Mexico health care providers and community members focused on improving the health of residents of Albuquerque’s South Valley traveled to Havana on a MEDICC-sponsored trip to better understand the Cuban health care system. They visited neighborhood consultorios—clinics staffed by nurses and physicians living within the communities served—and were impressed that the deep connection of the providers to the community supported the delivery of highly effective patient- and community-centered care. After returning home, the Community Partnership for Health Equity (CPHE), a partnership formed to implement programs in the South Valley, sought ways to achieve similar connections between health center providers and patients, and to help providers better understand the communities in which they worked. They started a weekly walking group in which doctors, nurses, social workers, and others joined community residents for hour-long walks around neighborhoods surrounding the clinic. Through these walks, providers saw first-hand community strengths and barriers to health far more clearly than was possible within clinic walls. They gained a deeper understanding about difficulties in accessing affordable, nutritious food, and challenges with filling medication prescriptions and managing chronic conditions. Armed with this understanding, CPHE developed culturally appropriate programs to support patients with diabetes and other chronic conditions. While not precisely duplicating the Cuban approach to assuring that providers understood social determinants of health experienced by their patients, health systems and CBOs were inspired to adapt creative strategies for implementation from a very different health care system.
2.2 Scan for global approaches to integrated health service delivery

Identification of global innovations in service delivery—both general strategic approaches, and specific programs or interventions—can inform improvements in delivery of primary care and public health services domestically.

a. Review promising strategies and how they are implemented throughout the world

One of the observations in the “Understand the how” component of the Global Learning for U.S. PHC framework is that lessons from global health can contribute to advancement of health and health equity in the U.S. in several ways—by providing examples of specific interventions or programs from abroad that can be adopted or adapted to address similar health issues; by providing inspiration to identify solutions to local problems by applying new and creative approaches that take advantage of local resources; and by demonstrating how various key strategies have been effectively applied in other countries.

Shortly after G2L was established, it contracted with PATH, a global health innovation organization, to conduct a landscape analysis and literature review of global health strategies that could be transferable to low resource populations in the U.S. In 2010, PATH systematically reviewed evidence of interventions from LMICs, and identified six strategies used in LMICs that could be applied in the U.S. The report was updated in 2016 with identification of five additional strategies (Table 5).

The interventions address determinants of health at multiple levels, ranging from governmental and institutional policies to the level of individuals and families (Figure 4). PATH systematically reviewed evidence of interventions from other countries around the world and identified strategies that could be applied in the U.S. Each strategy was chosen based on its (1) effectiveness and cost-effectiveness, (2) ability to have the greatest impact on the most disadvantaged populations (i.e., equity), (3) ability to address social determinants of health, and (4) transferability and feasibility in low-resource domestic settings.

Of note, at some level interventions reflecting each of these general strategies are regularly implemented in the U.S., and none are unique to other countries. However, the approaches to implementing

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**FIGURE 4**

Levels and Determinants of Health

- Individual & Family
- Local Health & Care Services
- Health System
- Community
- Policies & Institutions

Source: Guenther and Shearer
## TABLE 5
Global Health Strategies Potentially Transferable to the U.S. Context

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Level</th>
<th>Transferable?</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community health workers (CHWs)</td>
<td>Highly transferable</td>
<td></td>
<td>Promote healthy behaviors, increase access</td>
</tr>
<tr>
<td>Mobile health (mHealth)</td>
<td>Transferability depends on structure of current health system</td>
<td></td>
<td>Increase access and coverage to preventative and curative services</td>
</tr>
<tr>
<td>Public private partnerships (PPPs)</td>
<td>Transferable</td>
<td></td>
<td>Increase efficiency and cost-effectiveness of services</td>
</tr>
<tr>
<td>Promote community asset building through community-based organizations</td>
<td>Transferable with adaptations</td>
<td></td>
<td>Increase access to services</td>
</tr>
<tr>
<td>Social media and mass media health campaigns</td>
<td>Transferable</td>
<td></td>
<td>Promote healthy behaviors, increase access</td>
</tr>
<tr>
<td>Improving economic development and wealth</td>
<td>Transferable</td>
<td></td>
<td>Improve use of health services</td>
</tr>
<tr>
<td>Community mobilization and community leadership development</td>
<td>Transferable</td>
<td></td>
<td>Increase efficiency and cost-effectiveness</td>
</tr>
<tr>
<td>Coordinated and patient-centered primary care</td>
<td>Transferability depends on structure of current health system</td>
<td></td>
<td>Improve the quality of health delivery, improve health outcomes</td>
</tr>
<tr>
<td>Gender integration</td>
<td>Transferability depends on local context</td>
<td></td>
<td>Improve gender equality, improve health</td>
</tr>
<tr>
<td>Retraining and relicensing foreign medical professionals</td>
<td>Transferable within the U.S., but depends on specific laws, regulation, and licensing.</td>
<td></td>
<td>Enhance economic opportunities and improve cultural diversity of health care delivery.</td>
</tr>
<tr>
<td>Linking primary care and public health</td>
<td>Transferability depends on local systems</td>
<td></td>
<td>Improve access to public, social, and primary care services, thereby strengthening health care delivery services.</td>
</tr>
</tbody>
</table>

Source | Gunther and Shearer82
these strategies (such as community mobilization and leadership development) and the emphasis placed upon them (such as integration of primary care and public health) often differ from those in the U.S.

The strategies identified by PATH map closely to those outlined in a 2020 summary of how lessons from global health could inform the U.S. response to COVID-19. Four of the seven lessons proposed in that summary (investing in reaching people where they are through CHWs, strengthening public health, linking economic development and health to improve equity, and using technology to improve access for marginalized populations) are similar to those found in the PATH list. (While not on the PATH list, the remaining three lessons—investing in universal health care, making medicines affordable, and enhancing science- and data-based public leadership—reflect widely acknowledged policy issues at a national level.)

The previous section highlights application of strategies from global health used to support community engagement and empowerment. Health systems and CBOs in the U.S. can also gain insights from the application of other strategies to enhance current approaches to service delivery.

Although not explicitly included in the PATH Landscape Assessment, task shifting is a key global health strategy that has great potential for application in the U.S. Task shifting refers to the redistribution or reassignment of tasks from one category of health worker to another with appropriate skills. Typically, the person to whom the task is shifted has less formal and specialized education or training than the person from whom the task is shifted, for instance, from a physician to a CHW. When task shifting occurs in the U.S., it is typically described as allowing health workers to function “at the top of their license.” Task shifting is a strategy widely used throughout the world, particularly in LMICs, where the need has often been driven by a shortage of qualified professionals. Indeed, a deficit of qualified health workers to address the HIV/AIDS crisis in LMICs resulted in a cascade of task shifting through various cadres of health workers—from doctors, to nurses, to CHWs, to volunteers, and to patients themselves. In order to provide guidance to countries to support effective design and implementation of task shifting to expand the workforce for the delivery of HIV services, WHO developed a set of recommendations and guidelines for task shifting intended to improve access to services while maintaining safety, efficiency, and effectiveness.

While WHO’s recommendations are primarily intended as guidance for countries considering adoption of task shifting approaches to enhance access to HIV care, many of the principles addressed in the document—particularly those related to ensuring quality of care—are relevant for health systems in the U.S. that are considering task shifting for other aspects of primary care.

Task shifting has also been a key strategy for expanding access in global mental health, again driven by shortages of qualified psychiatrists, psychologists, social workers, and other behavioral health cadres. This approach trains lay people to deliver care to patients with mild to moderate mental or behavioral health disorders. Task shifting is often integrated with the CHW model where trusted members of the community are trained to implement very structured, skill-based...
interventions to support positive mental/behavioral health outcomes in the community. Task shifting in mental health care, particularly when it is seen as “task sharing” within a system where care is shared amongst a team of providers, has been advocated as an approach to addressing unmet mental health needs in rural and other low-resource areas in the U.S.  

While task shifting and task sharing are often implemented as a response to critical shortages of highly trained professional resources, the effectiveness and efficiency of care delivery can be enhanced using these strategies even in the absence of such shortages. In order to allow highly trained professionals to deliver services they are uniquely qualified to provide, less complex tasks performed by those professionals can be delegated to individuals with less training. Importantly, in some circumstances interventions delivered by peers and community members can also achieve better outcomes than those delivered by health professionals.

U.S. implementers applying task shifting approaches may face regulatory barriers, such as licensing requirements, financing constraints in fee-for-service systems, liability concerns, and pushback from professionals who feel threatened by perceived invasion of their “turf.” Despite these challenges, there is emerging evidence that such barriers can be overcome. The applicability of globally-inspired task shifting to U.S. primary care is reflected in the example of Iora Health.

CASE EXAMPLE
Globally Inspired Task Shifting in the U.S.: Iora Health

In late 2010, Rushika Fernandopulle MD, MPP, founded Iora Health, an innovative primary care organization whose model relies heavily on a task-shifted delivery structure inspired by observations of health systems in a number of LMICs. Prior to establishing Iora, Fernandopulle experienced different approaches to primary care delivery first-hand as a physician providing medical care in the Dominican Republic and Malaysia. He later studied care delivery in Sri Lanka, South Africa, India, and elsewhere. He observed that a key feature of these systems was effective use of personnel other than physicians and nurses to perform certain clinical tasks, and, perhaps more importantly, to engage patients in order to help them stay healthy. Fernandopulle learned, for instance, how Indian health innovators had created new categories of health workers, such as CHW “vision guardians” trained in basic vision testing and screening for various eye conditions, and a mid-level ophthalmic paramedic role trained to safely and efficiently provide several components of vision care typically provided by optometrists or ophthalmologists.

Impressed by the potential of enhancing primary care in the U.S. by application of strategies such as task shifting, he launched a network of clinics using a model that differed substantially from that used in the majority of American primary care practices. A key feature of the Iora approach is heavy reliance on health coaches—non-medically trained staff—recruited for interpersonal skills and empathy who provide personalized and proactive support to patients. In addition to physicians, nurses, and behavioral health specialists, Iora teams included as many as four health coaches per physician. Health coaches perform some tasks typically done by more highly compensated professional staff, such as checking vital signs, reviewing medication use, or troubleshooting barriers to compliance with treatment recommendations. However, although the shifting tasks to health coaches increased provider productivity and
produced cost savings, the primary rationale that drove the introduction of health coaches to the Iora teams was the belief that their deep relationships and social connections with patients could yield better outcomes. Several years after Iora was established, Iora patients were reported to have a 40 percent reduction in hospitalization, 20 percent reduction in emergency department visits, and 15–20 percent reductions in total health care spending. In 2020, Iora included nearly 50 practices in nine states.

b. Identify global solutions to explore with communities and stakeholders

In addition to providing insights into the application of general strategies to advance health and health equity, study of global health can identify specific innovative programs and interventions with the potential to improve health and health care in the U.S. The process of adopting specific programs from LMICs in HICs is sometimes referred to as “reverse innovation.” Although the term originated in the context of international business, more recently it has been applied to circumstances in which health-related programs from developing countries are transferred to developed countries. The reverse innovation nomenclature has been criticized because it implies that knowledge transfer from a less developed to a more developed country is counter to the normal and expected direction, and that it perpetuates a colonial world view. In response to this criticism, terms such as frugal innovation, co-development, bidirectional learning, reciprocal innovation, and mutual reciprocity have been proposed as preferable terminologies depending upon the specific context.

CASE EXAMPLE

Henry Ford Health System Applies Strategies from Rwanda to Address Provider Burnout

In 2018, leaders of the Henry Ford Global Health Initiative (GHI) and the Robert Wood Johnson Foundation’s (RWJF) global team met to discuss how global solutions could be leveraged to address Henry Ford’s health care delivery challenges in Detroit. As a department, GHI works closely with clinical care delivery units across the Henry Ford Health System enterprise to identify challenges related to WHO’s six building blocks of health systems. In turn, it identifies solutions to those challenges from its partners in the 27 countries where it has active health system strengthening partnerships and research programs. By nurturing reciprocal and bidirectional relationships with its partner organizations around the world, GHI has developed a strong network to source global solutions.

In an effort to complement and build this bidirectional network, GHI sought to design a global study tour approach and learning process. In addition to identifying and cataloguing potential global solutions to Henry Ford’s health system challenges, it also sought to better understand and articulate the need for a culturally responsible, bidirectional approach to global learning. In this endeavor, it found an ally in the RWJF’s commitment to advancing a culture of health in the U.S. by facilitating and deepening global relationships. GHI and RWJF, in partnership with the Duke University-related Innovations in Healthcare and the international nongovernmental
organization Partners in Health, embarked on a 14-day study tour in East Africa, visiting nearly 20 community-based health-affiliated organizations in Rwanda and Kenya.

Before embarking on the study tour, GHI conducted a comprehensive literature review and series of interviews of clinical leaders. The purpose of this informal mixed methods approach was to document the primary challenges facing clinical and operational teams, so that potential global solutions could be more efficiently evaluated and vetted vis-à-vis their fit with the needs in Detroit. Importantly, this review also included broader community health challenges as surfaced in the 2017 community health needs assessment completed by Henry Ford and the Detroit Health Department. Interviews with health care, community, and city leaders refined these challenges, which were categorized broadly as follows: health service delivery; health workforce; health financing and affordability; social determinants of health; and health technologies. These topics largely mirror WHO’s health system building blocks, while also being responsive to the locally-identified community health needs of Detroiters. RWJF completed its own internal process for determining how to evaluate global solutions.

GHI, RWJF, Innovations in Health, and Partners in Health identified nearly 100 organizations with approaches or solutions to health care delivery in at least one pre-defined category. From there, the organizations were evaluated based on the degree of evidence they had generated; the relevance of their solution or approach to the challenges identified by GHI and RWJF respectively; their willingness to share their solution and entertain a bidirectional or reciprocal relationship with either organization; and logistical considerations around meeting in-person during the timeline of the study tour. During the trip, selected organizations were visited to better understand the nature of the innovation and the “ingredients” that made it successful, and to speak with the leaders and community members involved in implementation.

One identified approach, from Rwanda’s TIP Global Health (formerly, The Ihangane Project), is called the “Hope Initiative”, which aims to address burnout among health care providers that treat women living with HIV who are pregnant and/or mothering children. One primary workforce challenge identified by GHI is physician burnout, and this corresponded with a community challenge identified by Detroit organizations: infant and maternal mortality. GHI and the Ihangane Project went on to formalize a bidirectional relationship to co-develop the “Hope Initiative” to serve clinicians working with these unique, but related, populations to reduce burnout and promote hope and wellness. The program was paused in 2020 due to COVID-19 and related response activities. As of May 2021, in-depth qualitative interviews had been conducted with care team members in the women’s health and obstetrics and gynecology departments. Findings will guide the co-creation of interventions in partnership with TIP Global Health, which will target burnout and hope-formation among care team members.

Resources specifically focused on identification and application of lessons from global health, such as those at Henry Ford Health System are uncommon, so most U.S. systems and CBOs will need to rely on other approaches to identify potential global solutions to problems they face. These approaches may include:

i. **Engage with colleagues with global health experience**

The majority of successful applications of lessons from global health that have been successfully adapted or adopted in the U.S. appear to share a common link. In nearly all of the examples summarized in this series, one or more
individuals with experience working or living overseas has played a key role in the program. Adam Taylor, G2L’s first executive director, served in the Peace Corps. Dr. Sonya Sunhi Shin, the physician who brought the PIH perspective to the COPE program, had extensive clinical experience overseas prior to her work with the Navajo Nation. While serving as the New York City Health Commissioner, Dr. Mary Bassett suggested adapting the Friendship Bench following her extensive experience working in Zimbabwe. Dr. Rushika Fernadopulle’s extensive international experience profoundly influenced the Iora Health model.

Many, and perhaps most, primary care delivery organizations include staff with global health experience. One-quarter of U.S. medical students graduating in 2019 reported global health experience in medical schools, and a growing number of residency programs offer global health rotations. Many global health graduates work in non-profit organizations or health care delivery organizations in the U.S. after graduation. Primary care practitioners with international experience recognize that their experiences abroad can inform work to improve PHC in the U.S. Thus, the current workforce in many U.S. institutions included individuals with global health experience and expertise, and those individuals can serve as a valuable internal resource for institutions interested in exploring global ideas for local implementation.

ii. Engage with community members with lived experience

Collaboration between health professionals and immigrant community members with lived experience from other cultures and health systems can yield important improvements in care delivered to specific cultural populations. CBOs can serve as facilitators and intermediaries in order to engage community members in the co-design of culturally-congruent programs informed by knowledge and experience from their cultures and native countries. For instance, the Mama Amaan project in Seattle was a collaboration led by Somali women researchers and practitioners that brought together partners such as the Somali Health Board (a CBO comprised of Somali Health professionals and volunteers working to reduce health disparities among immigrants and refugees), Health Alliance International (a global health NGO), Somali Doulas Northwest (a provider of doula services to low-income, refugee, and immigrant women; now known as Global Perinatal Services), and University of Washington faculty to support improved perinatal experience and outcomes for local Somali families. While not explicitly focused on global learning per se, the project was informed by global wisdom shared among the participants.

iii. Consult global health databases and resources

Substantial information about policies, programs, and interventions other nations have used to improve health and health equity is readily accessible through sources typically used by scholars, researchers, and implementers. These sources include databases such as MedLine, CINAHL, PsycINFO, and SCOPUS. In addition to consulting these general databases, prospective global learners can access a number of global health-focused databases, websites, and other resources.

The WHO website is a rich resource describing strategies that have proven effective around the world. A repository of general background information related to PHC can be accessed through the primary health care landing page and a trove of technical reports and country case studies showcasing primary care innovations from
throughout the world. The [IntegratedCare4People](#) web-based knowledge exchange serves as a hub to connect with innovative practices from across the world.

Several other resources that may be helpful in identifying global health innovations and interventions are listed in Table 6.

### Table 6

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
<th>Navigation Tips</th>
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</thead>
<tbody>
<tr>
<td><strong>Consortium of Universities for Global Health: LinkLibrary</strong></td>
<td>A compendium of &gt;180 global health-related websites. The content resulted from a Google search of the term “global health” that vetted ~18 million hits down to &gt; 180 sites.</td>
<td>The “link library” divides content into four types: (1) informational resources; (2) journals and ports with high relevance to global health; (3) job and field placement opportunities; and (4) language training programs. Click on a hyperlink to go directly to that webpage.</td>
</tr>
<tr>
<td><strong>Primary Health Care Performance Improvement Strategies</strong></td>
<td>PHCPI developed an interactive tool that comprises modules essential for strong PHC systems, inputs, and service delivery. Drawing on evidence-informed strategies globally, each module includes an evidence review, case studies, key questions, and infographics to guide selection of strategies.</td>
<td>PHC improvement factors are divided by type to facilitate easy browsing. Resources include infographics, PowerPoints, downloadable PDFs, and peer-to-peer learning opportunities.</td>
</tr>
<tr>
<td><strong>NACCHO’s Global-to-Local Public Health Exchange</strong></td>
<td>The Exchange includes resources such as a blog and podcast series, white papers, and reports describing how successful approaches in other countries can be adopted by U.S. local health departments.</td>
<td>Guidance tools are divided into three categories: “implementation,” “success stories,” and “resources.” Scroll through these tabs to identify relevant tools.</td>
</tr>
<tr>
<td><strong>Global Innovation Exchange</strong></td>
<td>This open-source database highlights over 5,000 examples of innovations in 13 health focus areas from over 135 low- and middle-income countries.</td>
<td>Search innovations by implementation location, focus areas (sector or topic), stage (ideation through sustained scale), funder type, and recognizing organizations.</td>
</tr>
<tr>
<td><strong>Center for Health Market Innovations (CHMI) Database of Programs</strong></td>
<td>The CHMI public database provides information on 1,400 innovative health enterprises, nonprofits, public-private partnerships, and policies in low- and middle-income countries that are advancing health care quality and affordability.</td>
<td>Browse the database for health innovations by health focus, approach, country, or theme.</td>
</tr>
<tr>
<td><strong>Innovations in Healthcare(iiH)</strong></td>
<td>As of 2021, the network included 90+ innovators in nearly 90 countries, with primary goals of sourcing, strengthening, scaling, and studying innovations in health care.</td>
<td>Search the database by country of origin, target population, target income level, geographic reach, target settings, health need, continuum of care, offering, and organization type.</td>
</tr>
<tr>
<td><strong>Grand Challenges Canada</strong></td>
<td>Lists over 1,300 innovations in 106 countries aiming to accelerate the achievement of the United Nation’s Sustainable Development Goals, with a particular focus on seven areas having the greatest potential for impact using innovation: maternal, newborn, and child health; early childhood development; mental health; safe abortion; sexual and reproductive health; sanitation; and gender equality</td>
<td>This database includes a search engine that filters by geographic region, program, institution, priorities, and platforms.</td>
</tr>
<tr>
<td><strong>Global Ideas for U.S. Solutions</strong></td>
<td>The webpage includes information on 14 global initiatives that are applying lessons from abroad to advance health and health equity in the U.S.</td>
<td>Filter and scan resources by topic or type.</td>
</tr>
</tbody>
</table>
A number of disciplines, frameworks, and paradigms address the improvement of existing health programs and the replication, adaptation, and adoption of health programs across settings. Among these are dissemination and implementation science, diffusion of innovation theory, and various continuous quality improvement methods.  

However, there is not a robust literature describing application of these fields to domestic adoption of ideas from global health. Researchers who interviewed individuals involved in the successful U.S. adoption of five global innovations found that in the absence of systematic guidance to support such implementations the implementers were generally “operating on the basis of trial and error.”

The sections that follow describe approaches to assessing the likelihood of successful transfer of global innovations to other contexts, and provide guidance about steps implementers can take to support successful adaptation, adoption, and diffusion of global learning in the U.S. In addition to introducing some general but broadly applicable principles, several applications specifically developed to address adoption and diffusion of global ideas are highlighted.

### TABLE 7
**Selected Fields and Approaches Addressing Replication, Adaptation, and Improvement of Health Programs**

**Dissemination science** is “the study of how evidence-based practices, programs, and policies can best be communicated to an interorganizational societal sector of potential adopters and implementers to produce uptake and effective use.”

**Implementation science** is “the study of what happens before, during, and after an innovation adoption occurs, especially in organizational settings.”

**Diffusion of innovation theory** addresses the “social process that occurs among people in response to learning about an innovation such as a new evidence-based approach for extending or improving health care.”

**Continuous quality improvement** in health care “is a structured organizational process for involving personnel in planning and executing a continuous flow of improvements to provide quality health care that meets or exceeds expectations.”
3.1 Assess transferability

Consider the extent to which global solutions have potential for transferability by assessing key elements of the attributes of the solution.

Despite the nearly limitless number of potential solutions from across the globe that have improved PHC, many of those solutions may not be easily transferable to the U.S. context, with or without some modification. Differences in cultural and political contexts, in population characteristics, and in the design of health systems can pose barriers to the generalizability of even well documented, robust, evidence-based interventions.

Many tools to assess generalizability of health interventions have been developed, but few have been applied to evaluate the prospects for effective transferability from one country to another. In one study, investigators evaluated the likelihood that a Swedish post-partum weight management intervention could be successfully implemented in England. They applied eleven tools designed to assess the transferability or generalizability of health interventions from one setting to another and found that, by and large, the tools were neither easy to use, nor useful in identifying the likelihood of successful transfer of the intervention to another context. It is likely that in many cases, differences between the U.S. and LMICs would be even greater than the contextual differences between two high-income European nations, suggesting that the tools would be even less likely to be useful in that context.

Nevertheless, at least one screening tool has been developed with the explicit intent to assess the potential transferability of innovations from LMICs to HICs. A team of researchers based at the University of Toronto developed a brief two-stage screening tool to identify innovations from LMICs that could be applicable in HICs. In the first stage, the program’s success in the LMIC is rated by its accessibility, cost effectiveness, scalability, and effectiveness. For interventions in which the first stage score exceeds a threshold, the innovation is then assessed for its potential adaption in a high-resource setting based on its novelty, comparability, ability to address a gap, and receptivity of target setting. The scoring system is shown in Figure 5, and an example of how one institution used the Bhattacharya criteria follows.
CASE EXAMPLE

Henry Ford Health System’s Application of the Bhattacharya Screening Tool

In 2018, Henry Ford Health System began an effort to integrate behavioral health services across all primary care and ambulatory sites. The initiative, known as Behavioral Health Integration (BHI), was predicated on the idea that behavioral and mental health services should be available at the point of care most familiar to patients: their doctor’s office. By building off existing processes used to screen patients for mental illness, integrated primary care teams can connect patients to care in real time. Patients with mild to moderate mental health needs who consent to participate are connected live via a computer and video link for a telehealth visit with a BHI psychotherapist. These visits often happen same-day, but some may be scheduled up to 48 hours later at the patient’s same primary care location. Primary care offices are usually conveniently located to patients, and the visits happen in the context of a trusting relationship with their doctor and the care team.
Early in the BHI pilot effort, pinch-points were identified related to workflows (e.g., screening and assessing for mental health conditions; rooming for the video visit with therapists), care coordination (i.e., follow-up between visits and after reaching treatment-to-target goals), and expenses (e.g., FTE and salary for workforce). In an effort to explore all possible solutions, BHI’s principal investigator contacted the Henry Ford Global Health Initiative (GHI) seeking global solutions to the three pinch-points to this local health care delivery challenge. GHI, which categorizes global solutions using WHO’s health systems building blocks, sourced innovations that addressed health service delivery, health workforce, and health information systems. These innovations were then cross-referenced against source countries’ health care delivery and workforce limitations, building on the premise that similar challenges may yield solutions with a stronger propensity to address the problem. Several innovations were surfaced, which were scored using Bhattacharya et. al.’s criteria for scoring potential “reverse innovations.” An approach originating from Nepal’s Nyaya Health (formerly Possible Health) scored the highest and was presented to the BHI leadership for their reaction and vetting.

Nyaya Health responds to the mental health needs of rural populations in Nepal’s mountainous regions by training and deploying CHWs. These CHWs are equipped with training in motivational interviewing and other modalities to address the needs of patients who are far away from regular access to medical care. Because Henry Ford patients’ mental health treatment takes place in the context of primary care and is delivered by highly trained psychotherapists, there was initial skepticism around the match strength of the global solution. But one of Nyaya’s core strengths is their very low loss-to-follow-up for patients who receive mental health care from the CHWs. This area of care delivery for the new BHI program represented a potential limitation, with loss-to-follow-up before reaching treatment-to-target could threaten BHI’s ability to scale and spread. Additionally, because CHWs were already affordably and creatively deployed at Henry Ford, there was a strong cultural affinity for their value to the care team as well as a strong expense-value business case to adding them to the integrated care team.

A grant was written and awarded to pilot the addition of a CHW to the BHI integrated care team at a clinic in a Detroit neighborhood with a high concentration of immigrant and refugee families and a high burden of mental health concerns. Although delayed by COVID-19, the pilot project had already deployed the CHWs as of late 2019 to support patients under active BHI therapy, to help screen and enroll patients in the program, to be a cultural navigator (especially for women who qualified), and to support the follow-up and ongoing care coordination support for patients after they were discharged from the intervention. As of May 2021, over 150 patients’ social needs had been navigated, resourced, and follow-up remission maintenance provided. Additionally, billing for the CHW’s time as a member of the integrated care team under Collaborative Care Model codes is ongoing, which provides a sustainable model for reimbursement for this care team member, on a fee for service basis.
3.2 Optimize for successful adoption

Consider other relevant insights from dissemination and implementation science and diffusion of innovation theory.

a. Review and apply appropriate approaches to adaptation

Although the Bhattacharya criteria or other tools to assess the prospects for successful transfer of innovations from LMICs to HICs may be useful in some circumstances, they do not directly address important issues related to adaptation and adoption of global ideas. The fields of dissemination and implementation science can provide valuable guidance to support application of global ideas in a new context.

A variety of terms are used to describe the extrapolation or generalization of health innovations or interventions to populations or settings that are different from those in which they were first implemented. Some scholars make a distinction between "scaling up" and "scaling out" interventions. The term "scaling up" is used to refer to replication of a program or intervention to a similar but larger population, often in similar settings. By contrast, "scaling out" describes application of an intervention to a different population, and/or through a different delivery system or setting than those in which the intervention was initially found to be effective. According to this terminology, in most cases it is likely that transfer of innovations from other countries, particularly LMICs, to the U.S. are examples of scaling out.

Table 8 provides working definitions for three important concepts—fidelity, adaptation, and reinvention—related to replication or transfer of interventions from one setting to another. In some circumstances, it may be possible to implement global-to-local innovations with very high fidelity to the source program. As reflected in many of the case studies of global-to-local innovation summarized above, some sort of modification will likely be necessary in order to "scale out" most global innovations to the U.S. On the one hand, adaptation or reinvention of interventions can be critical to increasing the likelihood that the interventions will be effective in new environments. On the other, to the extent that modifications reduce fidelity to the original intervention, confidence that the impact of the original intervention will be achieved is reduced.

The tension between fidelity and adaptation or reinvention is a recurring theme in implementation science. Many adaptation frameworks, guidelines, and approaches have been developed, and they continue to evolve. These range from a relatively

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**TABLE 8**

**Definitions of Fidelity, Adaptation, and Reinvention**

| Fidelity | The degree to which an intervention is implemented as intended by its developers with the aim to maintain the intervention’s intended effects. The components of fidelity (also dimensions for measuring fidelity) include dose, frequency, exposure, quality of delivery, participant responsiveness, and program differentiation. |
| Adaptation | A systematically planned and proactive process of intervention modification with the aim to suit the specific characteristics and needs of a new context and enhance intervention acceptability. |
| Reinvention | The degree to which an innovation (i.e., an intervention) is changed or modified by the user in the process of its adoption and implementation. |

**Source** | Definitions from Movsisyan et al. |
simple set of high-level guidelines, such as those shown in Table 9, to slightly more in-depth models as shown in Figure 6 and Table 10, to complex frameworks intended to support rigorous implementation research.\textsuperscript{130,132,133}

Most of the adaptation models described above are intended to apply to replication or modification of rigorously defined, well-specified evidence-based interventions. Such interventions typically have explicit descriptions of the content and processes associated with the program, and have been subject to well-designed evaluations. For instance, the Zimbabwean Friendship Bench model described earlier has clear training protocols and delivery protocols, and its effectiveness in reducing symptoms of common mental disorders has been demonstrated in a randomized, controlled trial.\textsuperscript{134} A recent systematic review of studies of mental health interventions delivered through task sharing with community members without formal mental health training found that such studies were more likely to use evidence-based treatment in LMICs than in the U.S.\textsuperscript{135} Thus, there are many potential learning opportunities in LMICs that have the potential for adaptation in the U.S.

U.S. implementers hoping to apply evidence-based interventions developed elsewhere, and to retain critical elements of the intervention, can benefit from approaches to systematically evaluate changes made to the original program. Stirman and colleagues have developed two models that can assist U.S. implementers in understanding and tracking adaptations in order to support program design and evaluation. The FRAME model guides users through a process to consider both

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**TABLE 9**

**General Guidelines for Balancing Program Fidelity and Adaptation**

1. Identify and understand the theory base behind the program.
2. Obtain or conduct a core components analysis of the program.
3. Assess fidelity/adaptation concerns for the particular implementation site.
4. Consult as needed with the program developer to review the above steps and how they have shaped a plan for implementing the program in a particular setting.
5. Consult with the organization and/or community in which the implementation will take place.
6. Develop an overall implementation plan based on these inputs.

Source | Backer\textsuperscript{132}

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**FIGURE 6**

*Overview of Phases and Steps in the Process of Adaptation Based on a Systematic Review of 35 Guidance Documents*

Source | Adapted from Movsisyan et al.\textsuperscript{130} (CC-BY-4.0)
### TABLE 10
Key Adaptation Steps and Descriptions Based on a Scoping Study of 13 Frameworks

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
</tr>
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</table>
| Assess community                | • Identify behavioral determinants and risk behaviors of the new target population using focus groups, interviews, needs assessments, and logic models.  
                                  | • Assess organizational capacity to implement the program.                                                                                   |
| Understand the intervention     | • Identify and review relevant evidence-based programs (EBP) and their program materials.                                                    
                                  | • Understand the theory behind the programs and their core elements.                                                                        |
| Select intervention             | • Select the program that best matches the new population and context.                                                                       |
| Consult with experts            | • Consult content experts, including original program developers, as needed.                                                                  
                                  | • Incorporate expert advice into the program.                                                                                               |
| Consult with stakeholders       | • Seek input from advisory boards and community planning groups where program implementation takes place.                                      
                                  | • Identify stakeholder partners who can champion program adoption in a new setting and ensure program fidelity.                             |
| Decide what needs adaptation    | • Decide whether to adapt or implement original program.                                                                                     
                                  | • Theater test selected EBP using new target population and other stakeholders to generate adaptations.                                         
                                  | • Determine how original and new target population/setting differ in terms of risk and protective factors.                                    
                                  | • Identify areas where EBP needs to be adapted, and include possible changes in program structure, content, provider, or delivery methods.    
                                  | • Retain fidelity to core elements.                                                                                                         
                                  | • Systematically reduce mismatches between the program and the new content.                                                                 |
| Adapt the original program      | • Develop adaptation plan.                                                                                                                   
                                  | • Adapt the original program contents through collaborative efforts.                                                                        
                                  | • Make cultural adaptations continuously throughout pilot testing.                                                                          
                                  | • Core components responsible for change should not be modified.                                                                          |
| Train staff                     | • Select and train staff to ensure quality implementation.                                                                                     |
| Test the adapted materials      | • Pretest adapted materials with stakeholder groups.                                                                                           
                                  | • Conduct readability tests.                                                                                                                 
                                  | • Pilot test adapted EBP in new target population.                                                                                          
                                  | • Modify EBP further if necessary.                                                                                                          |
| Implement                       | • Develop implementation plan based on results generated in previous steps.                                                                    
                                  | • Identify implementers, behaviors, and outcomes.                                                                                            
                                  | • Develop scope, sequence, and instructions.                                                                                               
                                  | • Execute adapted EBP.                                                                                                                       |
| Evaluate                        | • Document the adaptation process and evaluate the process and outcomes of the adapted intervention as implemented.                             
                                  | • Write evaluation questions, choose indicators, measures, and the evaluation design; plan data collection, analysis, and reporting.         
                                  | • Employ empowerment evaluation approach framework to improve program implementation.                                                       |

**Source** | Escoffery et al. Reproduced with permission. ©2018 Society of Behavioral Medicine
modification of both the process and content of, and the reasons for, modification of evidence-based practices in real world settings (Table 11). A companion model, the FRAME-IS, focuses on modifications of evidence-based strategies, such as training programs or practice coaching that might be used to support delivery of the interventions.

The FRAME approach is well-suited to support U.S. adaptation of models developed in other settings. Ogbolu and colleagues used an earlier version of Stirman’s adaptation model to plan a series of modifications to Saúde Criança, a Brazilian family-centered innovation to address social isolation, for application among socioeconomically vulnerable families in Baltimore. Working with the Brazilian originators of the program, Ogbolu’s team identified core elements of the program, as well as elements that required modification due to context and cultural differences. The team reported that systematic application of the Stirman model allowed the team to preserve fidelity to the core elements of the intervention, while permitting adaptations to make the intervention appropriate for the Baltimore context.

Engaging program originators is widely recognized as an important strategy when adapting interventions for deployment in a new setting. Such collaboration leads to a deeper understanding of the design and outcomes of the original innovation. The collaboration with the Brazilian developers of Saúde Criança illustrates the importance of collaborating with project originators. Beyond the benefit to the U.S. implementer, such exchange not only acknowledges the expertise of international collaborators, but it provides an opportunity for bidirectional information exchange. As noted above, teams from the Henry Ford Health System collaborated closely with Rwandan colleagues from TIP Global Health in the adaptation of the Hope Initiative, and with mental health colleagues from Nepal’s Nyaya Health in adapting Nyaya’s behavioral health integration work.

In the absence of internal expertise in implementation and dissemination science, application of these approaches to adaptation and reinvention of interventions may be challenging for many primary care delivery organizations and CBOs. While some pragmatic guidance intended to assist people in typical community and clinical settings to plan new interventions has been developed, it should be acknowledged that application of some of the more complex approaches might benefit from collaboration with implementation science experts in universities or large health systems.

b. Understand the designing for diffusion model for introducing global ideas to the U.S.

Dearing and colleagues applied insights from diffusion of innovation research and practice paradigm to develop a useful model to explain factors that can facilitate effective introduction of global ideas and health innovations to the U.S. A key objective of the model is to describe how to increase the likelihood that a global
innovation is “noticed, positively perceived, accessed, and tried, and then adopted, implemented, and sustained in particular practice settings” through a process known as Designing for Diffusion (D4D). D4D is distinguished from general diffusion of innovation theory based on the seminal work of Everett Rogers in that D4D endeavors to affect, and not simply to describe, diffusion of innovations.

This conceptual Model for Introducing Global Ideas to the U.S. (Figure 7) addresses how global health innovations reach the U.S., identifies factors that stimulated adoption by organizations and communities, and describes scale up strategies that can support or inhibit an innovation’s spread from site to site.

After the D4D model was developed, Dearing and colleagues conducted interviews with implementers of five diverse health innovations that had been spread to the U.S. after initial deployment elsewhere.

The interviews elicited strongest support for the importance of four factors: (1) attributes of global innovation ideas, (2) linking agents, (3) inter-organizational partnerships, and (4) scaling strategies.

- **Attributes of innovations**, such as its cost-effectiveness and compatibility, were consistently identified across all five innovations.
- **Linking agents**, such as social entrepreneurs serving as visionaries and spokespersons to garner local support for the need of an innovation, were uniformly identified as critical links to support adoption and scaling of innovations.
• **Inter-organizational partnerships**, such as a set of organizations that work together on behalf of the global idea, are another factor that led to successful scale up. Partnerships can provide a tangible entity for scale up activities, such as serving as a point of contact for interested stakeholders from other U.S. communities, providing additional resources when piloting an idea, and a source to disseminate and communicate results of the innovation.

• **Scaling strategies**, such as the importance of communicating global ideas, is the fourth common factor that supported dissemination. Whether published in an academic journal, or spread by word of mouth, information about a promising innovation can bring about awareness and utility of potential innovations. Information paired with tacit (i.e., "how-to") knowledge, provided through personal visits, site demonstrations, and study tours, can also support potential adopters in observing, inquiring about, and understanding how implementation can occur.

c. Learn from global approaches to implementing and scaling innovation

Just as all health is global health, the fundamental processes of implementing, diffusing, and scaling up innovations from one setting to another are similar in domestic and international contexts. While there is no shortage of frameworks and theoretical models addressing these processes—some of which have been summarized above—there are fewer practical models expressly developed for implementers on the front lines of PHC. With funding from the Bill and Melinda Gates Foundation, a team of researchers from the Yale Global Health Leadership Institute distilled relevant research and the experience of global innovators to develop a practical approach for understanding and applying what works in introducing health interventions to low-income countries. The approach can be applied to implementation of ideas in the U.S., as summarized in video explanations found [here](#).

The **AIDED Model** follows the arc of dissemination, diffusion, and scale up activities of efficacious global health innovations. While it does not directly address transfer of global innovations from LMICs to the U.S., the model may provide insights to U.S. implementers, as it provides an integrated and practical approach for introduction of innovations into new settings. The framework has five interrelated components (assess the landscape, innovate to fit, develop support, engage user groups, and devolve efforts for spreading innovation) to support the scale up of innovations. An overview of the model that shows the relationship between and across each component is shown in Figure 8. A useful practitioner’s guide includes a series of guiding questions for practitioners wishing to apply the AIDED model to design, implement, and scale up global health innovations.
FIGURE 8
The AIDED Model

Assess
Understand user group receptivity and environmental context

Innovate
Design and package innovation to fit with user group receptivity

Develop
Build support and address resistance in the broader environment

Engage
Introduce, translate, and integrate the innovation in the user group

Devolve
User groups release and spread the innovation via peer networks

Source | Adapted from Bradley et al. CC BY-NC 3.0
Turning to ideas from abroad is not the only, and certainly not the first, inclination of those working to improve PHC in the U.S. Identifying and applying global solutions takes effort and can require human and financial resources that are already in short supply. In some quarters, there may be disinterest, skepticism, or even active resistance to entertaining ideas from very different countries and health systems. And while the intent of the framework is to provide ideas and guidance to support application of global learning in the U.S., it is not an easy-to-follow cookbook or a step-by-step roadmap. Although the framework reflects the experience of a number of health systems and CBOs that have successfully adopted innovations from abroad, as experience grows, a richer and more robust model will doubtless emerge. Until that time, though, efforts to improve PHC and to advance health and health equity in the U.S. can benefit from a commitment to incorporate a global perspective, to explore global ideas, and to adapt and implement global solutions.
Appendix

47 Global Learning Reflection Tool: Organizational Readiness and Capacity to Apply Global Lessons to Improve Primary Health Care in the U.S.

49 Activities to Consider: Advancing Organizational Capacity to Apply Global Learning to Improve Primary Health Care in the U.S.
The Global Learning Reflection Tool is intended to help organizations define the current status of global learning within their organization, and to stimulate conversations about possible steps to increase the organization’s ability to identify and apply lessons from global health.

The stages referred to in the section headings of the tool correspond to the stages in the Global Learning for U.S. Primary Health Care framework. Each row includes a statement and a series of responses addressing key changes in the framework, ordered from the lowest to highest level of implementation of that change. Values range from 1 through 9, with three options in each category to allow reflection of variability in current status within each of three main levels. First select the statement that you believe most closely reflects your organization. Then select one of the three values under that statement to reflect whether the organization is at the low, middle, or high end of implementation of the process reflected in the statement.

After individuals complete the tool, gather as a group and discuss the responses. To stimulate conversation, ideas for activities related to each stage are listed at the end of the tool. Refer back to the Resource and Implementation Guide for additional activities to implement in order to help address areas with low scores.
<table>
<thead>
<tr>
<th>Incorporate a Global Perspective</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>The organization's understanding of the rationale for seeking lessons from other countries to improve PHC ...</td>
<td>... is low, or there is little sense of the relevance of practices in other countries to our work.</td>
<td>... is moderate to high among a few stakeholders in the organization, but is not widely shared among those with the ability to influence application of those lessons in the organization.</td>
<td>... is high among key leaders and practitioners with the authority and/or influence to act upon lessons from global health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

| The organization's key leaders' and influencers' understanding of the various ways (inspiration, study of general strategies, and adoption or adaptation of specific programs or approaches) can contribute to improved health and health equity ... | ... is low, or the topic has not been considered. | ... has at least been a topic of conversation, and at least a few influencers or leaders understand the ways in which examples from other countries could contribute to improvement of our work. | ... is high among key leaders and practitioners with the authority and/or influence to support organizational approaches to global learning. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| The organization's commitment to incorporating global learning ... | ... is absent, or it has never been acted upon. | ... is sometimes discussed and acknowledged as potentially useful, but there has been little effort to identify or implement global solutions. | ... is clearly articulated and resources have been allocated to global learning activities. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| The organization's approach to community engagement as a component of PHC ... | ... has not been influenced by effective practices from other countries. | ... while not directly influenced by lessons from other countries, coincidentally reflects effective approaches used in other countries. | ... has at least in part been intentionally influenced by and designed or modified using a global idea in order to improve equitable outcomes. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| The organization's efforts to study and adopt global approaches to community engagement to improve PHC ... | ... are non-existent. | ... are infrequent, or are at best occasional and random, but are not systematic. | ... are frequent and systematic, and have achieved a high level of community engagement as demonstrated in other countries with strong PHC. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| The organization's understanding of how other U.S. health care delivery systems and/or community-based organizations have adapted or adopted global approaches to community engagement ... | ... is low, or the topic has not been considered. | ... has at least been a topic of conversation, and at least a few influencers or leaders understand the ways in which examples from other countries could contribute to improvement of our work. | ... is high among key leaders and practitioners with the authority and/or influence to support organizational approaches to global learning. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| The organization's capacity to identify global solutions (strategies or programs) ... | ... is non-existent or very low. | ... is modest, but can be at least somewhat effective on a case-by-case basis. | ... is high, and supported by resources to systematically identify ways in which challenges it faces have been addressed in other countries. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| The organization's capacity to assess global interventions for transferability to its context ... | ... does not exist, or is very low. | ... is mostly done ad hoc or informally when it occurs. | ... is strong, and supported by application of a systematic process developed elsewhere or designed internally. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| The organization's capacity to adapt interventions using insights from implementation science ... | ... does not exist, or is very low. | ... is limited in scope, but some resources and expertise are present. | ... is strong, using either the expertise of internal staff, or of collaborators or consultants with relevant expertise. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| The organization's understanding of models and frameworks to support introduction of innovations from other countries to the U.S. ... | ... is low, or the topic has not been considered. | ... is limited to general familiarity with such models and frameworks. | ... is very good, and is sufficient to effectively apply or use such models to adopt interventions. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
Activities to Consider

Advancing Organizational Capacity to Apply Global Learning to Improve Primary Health Care (PHC) in the U.S.

STAGE 1
Incorporate a Global Perspective

A first step in global learning is to actively incorporate a global perspective by intentionally considering lessons from abroad, and to understand the range of mechanisms by which global lessons can contribute to improvement of U.S. PHC.

Key Change

1.1 Understand the “why”
Understand the rationale for seeking lessons from other countries to improve PHC in the U.S.

1.2 Understand the “how”
Understand how global ideas can contribute to efforts to improve PHC in the U.S.

Activities to Consider

- Designate a global learning coordinator and team leader.
- Convene a team to review the Global Learning for U.S. Primary Health Care resource and implementation guide.
- Set aside time for a team to review the guide.
- Identify clinicians and other staff with an interest or experience in global health, and ask them to share whether they have observed ways in which examples from abroad could be applied locally.
- Provide educational resources to introduce concepts of PHC and other global health approaches.
- Consider how global ideas could support the organization’s strategic plan.
- Share recommendations with key leaders to seek endorsement of and resources for global learning.
- Identify steps in current performance improvement approaches (e.g., Model for Improvement, Getting to Outcomes, Lean/Six Sigma) where ideas from abroad could be integrated.
- Seek grants from philanthropic sources to support global learning.
- Consider participating in site visits to domestic organizations that have implemented global learning.
STAGE 2
Explore Global Ideas

Develop an understanding of the ways in which key strategies and interventions for improving PHC are implemented throughout the world, and study examples of how lessons from global health have been applied in the U.S.

Key Change

2.1 Understand global approaches to community engagement
Community empowerment and engagement is a key element that distinguishes PHC from primary care, and exploration of approaches to community engagement from abroad can help advance health and health equity.

2.2 Scan for global approaches to integrated health service delivery
Identification of global innovations in service delivery—both general strategic approaches, and specific programs or interventions—can inform improvements in delivery of primary care and public health services domestically.

Activities to Consider

• Select and complete a community engagement assessment tool (such as this one) to help identify opportunities for improvement.
• Review the organization’s approach to program planning, and consider how global approaches to incorporation of community voice into identification of needs could be applied.
• Review potential to implement or enhance a community health worker program incorporating global best practices.
• Take online global health courses, such as Harvard EdX “Strengthening Community Health Worker Programs.”
• Subscribe to global health newsletters or forums (such as the Primary Health Care Performance Initiative newsletter or Global Health NOW) to increase awareness about global PHC.
• Invite speakers from universities or NGOs to share examples of best practices from other countries.
• Invite patients originally from other countries to share features of the health system in their native countries that they wish could be present in the U.S.
• Elicit ideas from staff who immigrated from abroad to share ideas from their home countries that could be applied locally.
• Identify health outcomes experienced by the population served by the organizations, and prioritize a search for global approaches to similar problems. (A first step might be to crosswalk the strategies identified by PATH to determine whether they might be applied to address the challenge.)
STAGE 3
Adapt & Implement Global Solutions

Understand and apply approaches to increase the likelihood that global solutions can be successfully transferred to and implemented in the local U.S. context.

Key Change

3.1 Assess transferability
Consider the extent to which global solutions have potential for transferability by assessing key elements of the attributes of the solution.

3.2 Optimize for successful adoption
Consider other relevant insights from dissemination and implementation science and diffusion of innovation theory.

Activities to Consider

- Apply a scoring tool\textsuperscript{v} to assess likelihood of successful transfer of global innovation.
- Consult with program developers or originators.
- Study the Designing for Diffusion model\textsuperscript{vi} to identify key components for successful diffusion of global innovations to the U.S.
- Review the AIDED Practitioner's Guide\textsuperscript{vii} for a general approach to transfer of global health innovations.
- Review approaches to adaptation such as Finding the Balance: Program Fidelity and Adaptation in Substance Abuse Prevention. A State-of-the-Art Review,\textsuperscript{viii} Adapting evidence-informed complex population health interventions for new contexts: a systematic review of guidance,\textsuperscript{ix} and A scoping study of frameworks for adapting public health evidence-based interventions.\textsuperscript{x}

\textsuperscript{vi}https://courses.edx.org/courses/course-v1:HarvardX+CHA01+2T2019/c0f930251c134d77b9f32fa21292b1ba/
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