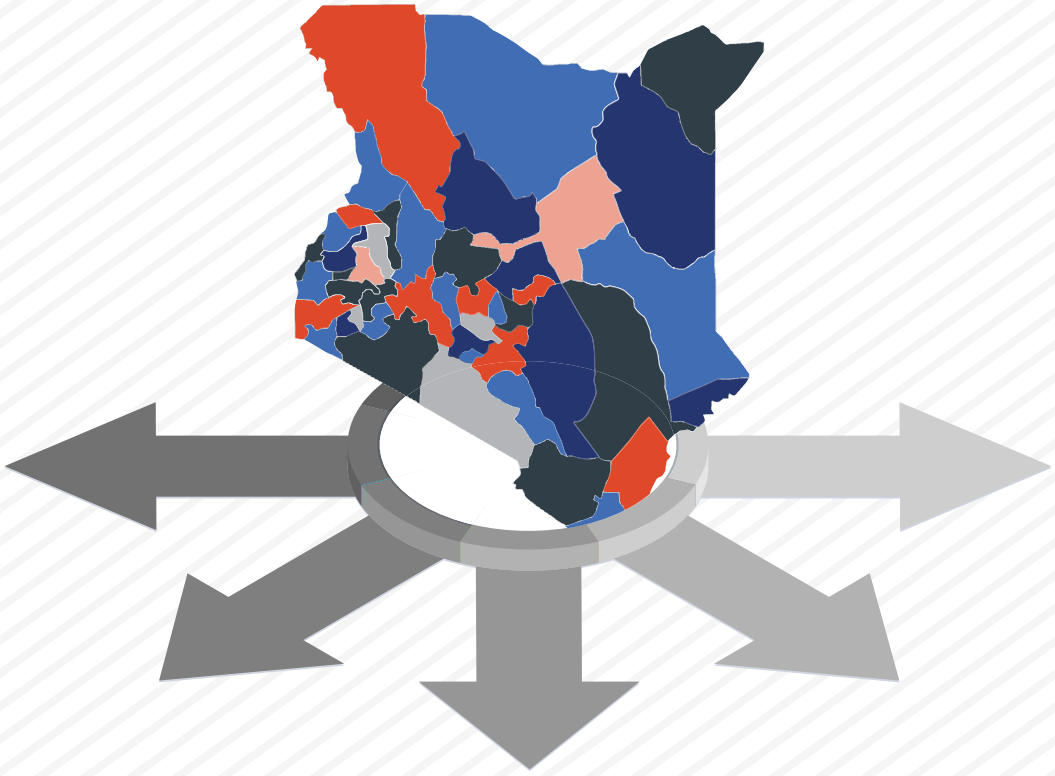
INNOVATIONS IN HEALTHCARE™

CLOSING THE LOOP

Insights On Adapting And Scaling Primary Healthcare Innovations In Kenya



SDG PARTNERSHIP PLATFORM

HARAMBEE

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DISCLAIMER: This product was commissioned by the Kenyan Ministry of Health's Primary Health Services and Family Medicine Division in line with the Kenya Primary Health Care Strategic Framework 2019–2024 (PHCSF). The research brief findings will support the Ministry of Health's work in advancing the provision of comprehensive, high-quality primary healthcare across Kenya.

EXECUTIVE SUMMARY

For primary healthcare (PHC) to truly expand and meet its users' needs, it requires innovative approaches and interventions working at scale. Kenya has committed to expanding PHC to achieve universal health coverage (UHC). One test of this policy commitment, however, will be in how well PHC innovations are rolled out and embedded in the new service delivery model of Primary Health Care Networks (PCNs), which aim to increase access at the community level and build a person-centered approach to healthcare. The integration of proven innovations serves as a critical element in reinvigorating PHC and ensuring its successful transformation in Kenya. This research brief outlines both enablers of and barriers to the adoption and scaling of PHC innovations and provides recommendations for strengthening Kenya's policy and health financing environment to support the sustainable scaling of these innovations.

Insights from this research, taken in combination with Kenya's strategic goals toward improving the health and well-being of its people, provide guidance for actionable next steps to be taken by policymakers, funders, innovators, and other organizations that seek to implement PHC innovations

Kenya's Ministry of Health (MOH) commissioned a study to gather evidence on strategies for effective adaptation and scaling of PHC innovations in Kenya, resulting in this research brief. Insights for this brief are drawn from common factors identified from scoring PHC innovations against an adapted set of criteria based on global evidence and validated by Kenyan health and innovation stakeholders. A thematic analysis of semistructured interview responses from global health and innovation experts provided additional context for the factors that enable or hinder the scaling of PHC innovations.

Insights from this research, taken in combination with Kenya's strategic goals toward improving the health and well-being of its people, provide guidance for actionable next steps to be taken by policymakers, funders, innovators, and other organizations that seek to implement PHC innovations. Several insights stand out as key to making progress towards PHC expansion and UHC in Kenya.

1. Communities are central to the adoption and scaling of PHC innovations, and the involvement of community members, community health workers, and local governments builds ownership that contributes to the sustainability of an innovation.
2. Ensuring that sustainable funding is available and accessible will be critical to Kenya's efforts to drive successful scaling of PHC innovations.
3. It is important for health systems to take steps to be innovation-ready across all levels; that is, policymakers and government stakeholders should understand the value of innovations, policy and regulatory requirements should be updated and adapted to reduce barriers faced by innovations, and health infrastructure and health workers should be appropriately resourced (including the provision of worker training) so that on-the-ground implementation of promising innovations can be carried out successfully.
4. Stakeholders should note that contextualization is key as innovations adapt to the diverse needs, markets, and user demographics seen across different communities in Kenya.
5. Stronger coordination among local, regional, and national levels of government on matters pertaining to PHC, coupled with strategic public-private collaborations, will strengthen the innovation ecosystem to enable faster adoption and scaling of PHC innovations.

INTRODUCTION

To achieve universal health coverage (UHC), the Kenyan Ministry of Health has embraced primary healthcare (PHC) as a strategic priority.[1] Kenya renewed its commitment to revitalizing PHC by signing on to the Astana Declaration (2018), which highlights the importance of community health services in advancing UHC.[2] The main challenges to the provision of optimal PHC in Kenya include sustaining quality of care, optimizing the health workforce to provide comprehensive services, and sustainably funding PHC for all.[3]

To advance UHC, Kenya has launched the *Kenya Primary Health Care Strategic Framework 2019–2024*, guided by the Kenyan constitution, Kenya Vision 2030, Kenyan health policy, and UHC goals. This framework aims to increase community participation in the delivery of health services and decision-making on health priorities. Additionally, the document describes the planned UHC implementation pathway and the management of Kenya's primary health services through the new model of Primary Health Care Networks (PCNs) that will connect and bolster healthcare services by building on current PHC systems.[4]

PRIMARY HEALTH CARE NETWORKS

PRIMARY HEALTH CARE NETWORKS (PCNS) form a key building block for delivering universal health coverage (UHC) in Kenya. The PCNs will be in the form of a "hub and spoke" model. The hub is a Level 4 facility according to the Kenya Essential Package for Health standards. This may be a public, faith-based organization or, when this is not available, a private commercial facility. The hub will support the spokes (Level 2 and 3 facilities and the community units). The PCN Operational Manual has been developed to guide and support county governments and implementing partners in the establishment, operationalization, and strengthening of PCNs.

DEFINITIONS

HEALTH INNOVATION is the development of new or improved health products, technologies, services, and delivery methods that improve people's health, with a special focus on the needs of vulnerable populations. -WHO[5]

PRIMARY HEALTHCARE is the most basic package of essential health services and products needed to prevent disease, promote health, and manage illness. -PATH[6]

While current policies reflect the imperative to strengthen PHC in Kenya, key areas such as government capacity to develop and manage public-private partnerships (PPPs), public-private collaboration and innovation to increase access to healthcare, and innovative financing mechanisms to mobilize resources for PHC must be advanced for the country to fully realize the benefits of PHC transformation.[7] Additionally, there are limited actionable insights on how Kenya can effectively bridge service delivery gaps and move forward in unlocking the health impact of comprehensive, high-quality PHC. This project was therefore launched to elucidate how the Kenyan Ministry of Health (MOH) can foster adoption and scale of PHC innovations.

Through a mixed-methods approach, the Research and Policy Analysis on PHC Innovations in Kenya project provided analytic support to Kenya's MOH to identify promising health innovations that could be adopted and scaled in Kenya to expand access to high-quality PHC, analyze commonalities among innovations that have demonstrated success in scaling and impact, and derive recommendations on approaches to strengthen Kenya's policy and health financing environment to better support the sustainable scaling of PHC innovations.

Following a systematic scouting process, 247 health innovations were identified for potential inclusion in the project's PHC innovation assessment. These innovations were evaluated against PATH's definition of primary healthcare to select those whose objectives and impact most closely align with the goal of improving access and delivery of PHC. The 68 innovations that passed the definition test were then assessed based on an adapted set of criteria based on global evidence.[8,9] The criteria were validated by a committee of experts convened by the Kenyan MOH. The PHC innovation assessment framework examines an innovation's value in impacting the PHC sector, ability to be sustainable and scalable, degree of health system partnership and ownership, organizational competency, and demonstrated capacity to measure evidence and impact. Data from the innovation evaluation process was analyzed to identify commonalities among high-scoring innovations. Additionally, the seven innovations with the highest scores were selected for inclusion in a case study series to support Kenya's health sector, at both national and decentralized levels, in better understanding how innovations support the advancement of PHC. To augment the findings from the innovation assessment, the research team interviewed 26 global health and innovation experts drawn from the public and private sectors in Kenya and similar countries. Through these key informant interviews, further data was collected on key attributes of current PHC innovation ecosystems, enablers and barriers to the adoption and scaling of PHC innovations, and the roles of policy and financing in creating an environment conducive to the success of PHC innovations.

This paper presents success factors, such as community engagement and the product-market fit of an innovation, that enhance PHC innovation adoption and scaling in Kenya. This brief also showcases barriers, including lack of technological know-how, that hinder PHC innovation adoption and scaling. Strategies for amplifying the success factors and overcoming the barriers to PHC innovation are discussed in detail. These insights are also broadly applicable to other low- and middle-income country (LMIC) contexts. Finally, this paper shares recommendations on how the MOH can adopt and scale PHC innovations in Kenya and how the private sector can provide support to effectively drive the implementation of PHC through the innovative PCN model to ultimately improve health outcomes.

FINDINGS

As the government of Kenya and other stakeholders across sectors look to support the scale of innovations in PHC to extend their reach and improve the health outcomes for more people, trends and lessons from other innovators who have implemented solutions in Kenya and in other, similar LMICs provide valuable insights to guide innovators and stakeholders alike on the path to embracing integrated PHC innovations. Based on systematic scoring of existing innovations and a thematic analysis of key informant interviews, the research team identified factors that were commonly associated with successfully implemented and scaled innovations in the PHC space as well as challenges or barriers to scaling that innovators previously overcame or currently face. The research team also explored ways to overcome these barriers, drawing out solutions that include both existing programs and ideas for future implementation.

Context of PHC Innovation in Kenya

The interviewees provided a rich contextual understanding of factors that are shaping PHC delivery and financing in Kenya, drawing from their experiences in Kenya and in other, similar LMICs. As Kenya makes strides toward UHC, the landscape of PHC has been evolving: the role of communities in healthcare has seen increasing prioritization, diverse funding mechanisms for PHC have emerged, and digital health innovations have become more prevalent. However, even though governments have expressed openness to these changes and to new innovations in PHC, some government systems and practices may hinder implementation of these innovations.

> "One of the key trends I've realized is...the understanding that community health is key to primary healthcare...that primary healthcare has to go beyond the brick-and-mortar facilities."
>
> "Since the healthcare is mostly devolved,... a lot of the innovation has been happening at the local levels."

Experts noted that community involvement in PHC has increased overall, with expansion of community-level health facilities, incorporation of community health workers (CHWs) into healthcare systems, and greater participation of communities in planning health programs. CHWs have increased access to care for underserved populations, although some stakeholders did note that community-level health services are underfunded and CHWs are often underpaid as a result. Participants emphasized, though, that stakeholders have increasingly prioritized community health and have expressed greater recognition of its importance.

> "I think another innovation is really an innovation around paying for service and really focusing on the prepayment of the services."
>
> "Traditionally, primary healthcare [has] been significantly grant-funded, [but] because many countries are growing economically...we see [that] the source of funding has moved from donor-driven to now a mix of donor, government, and private sector."

In the PHC financing landscape, there is an increasing focus on funding UHC as LMICs commit to UHC goals and shift strategies accordingly. There has been a "realization that primary healthcare is the first point of entry and so strengthening those [facilities] and making sure that they are well-resourced" has become important to funders. In addition to long-established funding mechanisms for projects and interventions such as grant-based funding, new and innovative funding methods are also being developed and implemented in LMICs. For instance, some participants mentioned development impact bonds as an example of an innovative financing mechanism that brings in private-sector investors and ties funds to performance goals, such as the achievement of specific outcomes. Furthermore, payment-based innovations that empower individuals and communities to pay for high-quality healthcare are becoming more common.

Digital health tools and technologies, such as electronic medical records that improve recordkeeping and patient data management as well as community health apps that enable CHWs to collect data, track their work, and communicate with supervisors, are increasing in prevalence. Both the supply of innovative solutions and the demand

> "Technology-enabled access to healthcare from the demand side...has significantly increased in uptake in Kenya. In fact, before, you wouldn't even think that ministries would license, for example, an online pharmacy in Kenya, but now they are, and that shows that [the ministries] are also changing with the trends and environment."

for those solutions have grown, with health innovators shifting toward digital innovations and health workers increasingly incorporating these digital tools into their workflows. Government bodies such as ministries of health also recognize the benefit of digital tools and continue to account for the digitization of healthcare by including relevant provisions in policy and strategy.

> "The prioritization [of primary healthcare] has been varied... there's a lot of political declaration at [the] national level, where you find people saying they're going to prioritize primary healthcare, but the follow-up execution is poor."
>
> "Traditionally, primary healthcare has been verticalized across different disease lines, and the inefficiencies of that and the fragmentation of that funding has not been lost on those who are funding through the systems."

As innovations emerge across the PHC landscape, governments of LMICs express openness to adopting them and incorporating new models into existing healthcare systems. However, efforts to embrace innovations have been hindered by a lack of data on health needs and disparities used to drive funding decisions, a lack of transparency in funding allocations and inefficient distribution of funds, and inconsistent actualization of programs and policies.

Success Factors for PHC Innovation Scaling

Key success factors for the scaling of PHC innovations in low- and middle-income settings fall into four broad categories: community involvement, sustainable funding, stakeholder networks, and clear product-market fit. The success factors that emerged most strongly in participants' responses centered around communities: interviewees highlighted the importance of adapting to local contexts, gathering input from community members, continually engaging with and educating communities, and coordinating with established local health systems.

Community involvement throughout the stages of development, implementation, and scaling is crucial to the success of PHC innovations. Interviewees mentioned the importance of an innovation's adaptation to local contexts, which can improve the rate of uptake or usage of the innovation among community members. Examples of adaptation given by participants include the consideration of local cultures and traditions that may impact health-seeking behavior or health-related perceptions, community organization and structures, and existing infrastructure such as available modes of travel.

> "Spending that time to make sure that you adapt your innovation to fit the context is necessary."

> "One of the factors that has made the innovation successful is the involvement of the stakeholders, and these are community health workers, in designing [the innovation]. ...One of the success factors is ensuring that the idea originates from the community, based on the community response as opposed to a boardroom discussion."

In addition, gathering input from community members provides innovators with opportunities to interact with target users—whether providers, patients, or health officials—who can share their perspectives on the problem or pain point the innovation seeks to address and give valuable feedback on the innovation's ability or potential to address their needs. Ongoing discussion of the innovation's strengths and weaknesses with users in the community throughout planning and development and extending into the launch and continued implementation stages enables iteration and continuous improvement of an innovation.

Continual community engagement can generate buy-in, establish a positive reputation for and trust in the innovator, and proactively educate individuals about an innovation so that community members are more likely to engage with the innovation when it is launched. Involving community members as stakeholders in an innovation's success also creates greater ownership in the innovation, contributing to its sustainability over time.

> "Community participation and ownership is important. ...Communities must participate in [an innovation] for it to succeed, [so that] it's not imposed on the community; the community accepts it."
>
> "The continuous oversight and the supervision by the community health extension workers and the community health assistants [ensure] that [the innovation program] is continuously on track and that there is no misuse."

Furthermore, successful PHC innovations often involve or connect directly with community-level healthcare structures or programs, such as CHWs or existing healthcare facilities. Involving community-level healthcare systems as integral parts of an innovation's care delivery model is a way that innovators can further engage with target communities to build ownership and stake in that innovation, which then paves the way for widespread acceptance and use of the innovation. Integration with public healthcare systems can also help innovations become sustainable, as highlighted by several participants:

> "The innovators need to work together with the public health system to see how these innovations that are being introduced can actually be integrated into the public health system for them to be sustainable."
>
> "You can work together with the public sector to introduce the innovation so that it can be integrated into the system rather than having parallel systems running, which [is] not sustainable."

Sustainability of funding serves as another key component of innovations' successful scale. Innovations with a plan for financial sustainability and continued revenue generation are less dependent on external, potentially inconsistent funding sources and are more prepared to scale as a result. Financial sustainability plans provide innovators with a framework to follow as their operations, revenues, and costs grow over time, thus better preparing them to adapt and iterate their models as they expand and progress through different stages of growth. Potential financial sustainability approaches suggested by participants include plans for sustainable revenue generation over time, cross-subsidization mechanisms, integration with public healthcare systems, plans for consistent access to charitable funding, and methods for obtaining other types of funding such as project grants or investment capital.

> "Once you get to a certain point, you need to actually get out [of] the revenue-generating model and...that then contributes to taking that innovation even farther, and so then it can have...a mix of funding."
>
> "One of the key things that has supported these [successful innovations] has been the availability of funding and support. ...Without proper funding, it becomes very difficult to take anything forward. ...The availability of those resources...is very key, not only to support [an innovation] for development, but to support the scale of it across all the facilities."
>
> "The challenge, I think, that happens with primary healthcare innovations, [is that we think], 'oh, health is a social good,' and so we want to take this entire concept [of an innovation] to scale simply based on grants. And that's just not a realistic ask for many of them."

Reliable, diverse, and consistently engaged networks of stakeholders and supporters can also foster the scale of innovations. Networking provides connections to existing and potential funders and can lead to national or international endorsement of an innovative model or health technology. Awareness and validation from key stakeholders can also lend trust and reliability to an innovation and facilitate the development of relationships with the public sector. In particular, the cultivation of government relationships can sensitize politicians to innovations and generate political buy-in so that policies and programs are supportive of new innovations and conducive to scaling.

> "[One success factor is] getting the right partners,... the two main partners, which would be the ministry [of health] and the private-sector partner,...[and] formalizing that arrangement. So, if you have an initiative that needs to scale, you need to achieve that buy-in, including political buy-in at the highest level in the ministries, and that now trickles down to the relevant administrative units either within the ministry or within the devolved units."
>
> "Government involvement end to end,...making sure government is involved in the design of a solution so that it's fit-for-purpose, because then [the governments] are more likely to take it up and take it to scale."

Finally, the product-market fit of an innovation is important to its potential to successfully scale. To demonstrate product-market fit, an innovation should clearly aim to address a particular pain point, problem, or gap in the healthcare space for which the need for a solution has been shown. The innovator should be able to articulate the intervention's value proposition to communities, staff members, end users or patients, funders, and other key facilitators including government stakeholders. In addition, participants identified alignment of an innovation's value proposition with existing government goals, strategy, and priorities as another success factor in scaling.

"A clear problem articulation was also useful [for successful innovations], I think, in having a response that was well-suited for…the issue"

"Understanding the ecosystem very well is important in terms of the healthcare providers, in terms of the customer, the citizen, in terms of the population and the policy and understanding where one fits into that ecosystem;…trying to be as specific as possible [and] identify where you fit in that ecosystem."

"It is an issue when you innovate something that doesn't fit into the existing designs or…[users'] workflow. This innovation…sort of shocks the system, or people don't know how to check this because it doesn't fit into their day-to-day routine."

Barriers to Adoption of PHC Innovations

Both new innovations in PHC and existing innovations that have been successfully implemented in other contexts face barriers to adoption when introduced in LMICs. The experiences of these innovators in settings similar to Kenya can provide insights into barriers that may also be reflected in the Kenyan context. These challenges in generating user demand and uptake when initially introducing an innovation can limit an otherwise promising innovation's ability to later expand and scale. Barriers to the adoption of PHC innovations largely center around target users, though these barriers may also be influenced by the larger contexts of the health systems and policies in place.

"A different way of work will always create that fear of the unknown."

"The most important barrier is inadequate investment in public education for adoption of new technologies. Very often we develop a roadmap for a new technology with a very well-written plan of how it should permeate to all levels of the society, but it often ends up not being supported with [a] commensurate level of investment… [in] public education for them to internalize it and then create momentum for sustained usage."

Target users may also lack the experience and technology literacy required to understand and subsequently engage with the innovation. Even if users express interest in adopting an innovation, uptake of that innovation may be hindered if the users do not have sufficient understanding of and ability to use the innovation's technical features. Tech-based innovations, in particular, can face low uptake due to a lack of access to computers and technological illiteracy of the target users, thus limiting the success of the innovation's implementation.

"[Even if] the public perceives [an innovation] to be very important…often the public requires more time to internalize and to have a self-sustaining demand for a service unless the education phase is extended."

"We had done a project,…an SMS information system, where when we did the evaluation, the members of the public were telling us, 'You know a lot of us do not have access to computers and firstly, we don't even know how to use computers and we are the ones who really need the information,'…so it has to be a solution which is accessible to communities which don't have access to computers or…are not computer literate."

"If you're trying to introduce electronic solutions or digital solutions, and you're working at the primary healthcare level,…a vast majority of people living with NCDs [non-communicable diseases] tend to be in the 60+ age group, and a good number of persons…may not be computer literate or have access to digital solutions."

Additionally, infrastructure challenges such as poor or unreliable connectivity and lack of convenient, affordable transportation options can present further barriers by limiting target users' ability to access an innovation.

"Depending on what [the] innovation is, [there's] the issue of access to the internet or mobile solutions in terms of the devices themselves, because…some of the telemedicine and other options would only be available if you have internet access and you're also able to use it."

"[As far as] access to infrastructure,…we still have areas where even power is not available. And that means that even the facilities where some of these innovations can take place are not likely to happen. …Infrastructure can be either national grid or power and even connectivity—both mobile and internet."

Overcoming Barriers to Adoption of PHC Innovations

Despite these barriers, innovators can facilitate greater adoption of their innovations by implementing strategies to anticipate and overcome these common challenges. Experts highlighted some strategies that innovators can use to promote increased receptiveness and understanding of a newly introduced innovation, including proactive outreach, education, and sensitization activities involving users and community members. In addition to equipping communities with the information and skills needed to understand and use an innovation, innovators can also leverage community engagement activities to solicit feedback from users and community members and involve these key groups in the development and planning processes. This can, in turn, enable innovators to tailor their innovations more closely to the specific needs, wants, and pain points experienced by the intended user population. Innovators should establish strong product-market fit and clearly articulate the innovation's value proposition to potential users to generate demand for the innovation and reduce barriers to uptake and adoption.

> "[There is an] iterative process [in which] you have to engage [users], make sure that you're testing and validating your innovations in terms of even co-creation of this innovation. It's good to involve the users, the end users of your innovations, to make sure that you're innovating for real needs and [that] what you are innovating can fit into the existing designs and structures."
>
> "If people [in the healthcare system] were able to understand the importance of this information that is being collected and how this information will be used, they may be in a better position to pay more attention to detail or pay more attention to actually ensuring that the data is collected, is collected in a manner that is useful, [and] that the data is complete and therefore... can serve [its intended] purpose."
>
> "Having that buy-in [from users] is a huge part of having them incentivized and want[ing] to use [an innovation]. ...Having them understand how [the innovation] provides solutions to their problems is a key characteristic to having those systems innovations be successful."

Barriers to Scaling PHC Innovations

Respondents also identified prominent barriers to the scale of PHC innovations in LMICs. Barriers to scaling were often linked to factors related to the health systems, health policy, and financing context in which an innovation is scaling.

The successful scaling of an innovation can often be limited by the context in which the innovation is implemented. If external conditions are not amenable to or do not create an environment that fosters the growth of new innovations, scaling efforts may be hindered. Insufficient infrastructure, including unreliable internet connectivity and electricity, can present barriers to an innovation's scale—particularly for tech-based innovations—by limiting the functionality of the technologies that innovations use and reducing an innovation's applicability to multiple contexts. Inconsistencies in infrastructure (such as mobile network availability or wired internet connectivity) or in available resources among different implementation sites can slow scaling processes by increasing the degree to which an innovation must be modified and adapted in order to fit these different contexts.

> "What else would be a big change for these kinds of innovations? I suppose the complexity of their healthcare ecosystem;...the ecosystem and knowing your role in it and understanding [that] very well is very important. The complexity is a huge barrier."
>
> "What are the conditions upon which [the innovation] works? You know, what groups of people would it work in? You know, what requirements does it have in order to work? ...Because honestly the other challenge [for] innovations is [that] there are so many variables that they [the innovations] may work in some places but not work in other places."

A lack of available funding mechanisms can also present barriers to scaling and limit an innovator's plans for financial sustainability. If the funding mechanisms that an innovator has incorporated into its financial sustainability plan are unavailable or otherwise inaccessible, that innovator's capacity to achieve continued financial viability will be reduced. Additionally, the availability of funding may change over time due to external factors, which would present additional financial challenges that can limit scaling. Underdeveloped innovation ecosystems and lower prioritization of innovation relative to traditional healthcare approaches often result in insufficient public funding available for innovations in addition to a dearth of external and private-sector funding (such as from donors or investors) to support scale.

Innovators may also encounter difficulties accessing loans, particularly those innovators with less experienced financial teams who face challenges navigating complex and bureaucratic processes for securing loans. The barriers presented by a lack of sufficient funding to support and maintain innovations at scale are particularly pronounced for innovators who rely on external funding sources to remain financially sustainable.

"Most governments will not directly budget to support new programs, even if they're in line with their policies,...so you find that some of the time or most of the time...the funding needs are one-sided, which brings now the question of the aspect of sustainability."

"The overall budget for health is little...then there is also the mix of health budgeting and politics. So [for example], when you build a big hospital...then you're more likely to gain political mileage than when you build small dispensaries. ...How do you bring that advocacy to the political class to see the value of health and especially health where you're not talking about big things like cancer or cancer treatment or MRIs...but when you're talking about small things like, for example, are children immunized? Are you able to make sure that people are living healthy? Are you promoting health?"

"Some of the funding may come in the form of loans. Loans have strings attached and sometimes the strings become barriers themselves. For example, for me to access a [particular] loan, I need clearance, and after clearance I need A, B, C, and D. So [then] adhering to timelines becomes a problem...[and the] funding organization may withdraw the funds...So we are in bad books, not because we did not want to implement, but because the set down rules were themselves a challenge."

Government systems and structures that are not conducive to supporting innovations and innovation scaling present further barriers. Enabling organizations, such as governments, implementation partners, or health systems, can introduce additional layers of bureaucracy that hinder innovation scaling by lengthening approval or regulatory processes that an innovation requires to operate or expand, or by slowing introduction and implementation of new processes in organizations seeking to adopt the innovation.

The pace of public sector partnership processes often does not align with that of private sector processes, exacerbating challenges faced by innovators looking to engage in partnerships with the public sector.

Furthermore, due to the lack of dedicated bodies or groups focused specifically on innovation within LMIC governments or ministries of health, introducing and scaling healthcare innovations may not be prioritized in policy and budget decisions to the extent needed to consistently support innovation scaling efforts.

Difficulty aligning innovations with government needs, priorities, and strategies can also hinder scaling efforts. Innovations that demonstrate impact and effectiveness in early stages of piloting and initial implementation may not be able to secure adequate support for further scaling if that innovation does not align with government strategies and goals established by ministries of health.

"[The] issue with the partnership framework [PPP Act] is...that it's a very lengthy process. It needs cabinet approval...you need to convince people at the division level, you go to the senior ministry people and convince them, you need to convince the AG, you need to go and convince the cabinet; it is a lengthy process. It can even take two to three years."

"Private sector funding is annual, if the company has allocated $10 million for me to do something in 2021, and the signing of the MOU, for example, happens in 2023, by the end of the year, the company will reallocate this money to something else. They don't have three years to follow up on an MOU."

"There's a policy issue where technology is advancing faster than the countries can adopt the regulation [for that new technology]."

"Do innovations align with overall government strategy and needs on the health system level, in addition to in specific/particular settings? What might work in one place could not fit for another place and thus not be a good match for scaling at the country health system level."

Overcoming Barriers to Scaling PHC Innovations

The impact of these barriers to scaling can be mitigated by strengthening the prioritization of healthcare innovation within government bodies. Establishing groups within the MOH that are focused on PHC and healthcare innovation is one way to further incorporate innovation into official health strategies and create an official commitment to fostering and supporting the scale of innovations. Such groups could undertake activities such as:

efforts to increase awareness and demand for PHC innovations, in general and with respect to specific innovations, at the policymaker level

"Even the politicians need to be educated adequately to appreciate the importance of investing, to influence health in ways that go beyond treatment of diseases…even our policymakers, a lot of them have not had the mindset required to prioritize investment in promotive and preventive activities"

facilitation of coordination and knowledge sharing between different levels of government and different ministries or departments

"In as much as the national government's responsible for policy and framework…we have seen that the subnational level has really taken off in terms of innovating. And I think the context should be seen as learning both ways as opposed to one being the guiding of the other."

"I think all the commitments that should have been made have been made, I think it's more about action and cascading the implementations to the counties… the national government obviously needs to provide the policies, that is their role. But then the real support needs to happen at the counties because that's where implementation is happening."

advocacy for the allocation of funding for PHC innovations in government budgets

"If the country sees it as a strategic imperative for them to focus on primary healthcare, they ought to allocate resources towards that strategic direction. So if we are excited that we are going to focus on primary healthcare, then let's allocate resources proportionately to drive that primary healthcare agenda.

ongoing dialogue with private-sector players to promote greater coordination and collaboration

"I don't think we can do this [primary healthcare expansion] just public sector, we can test it first, but it would need to incorporate them [the private sector]. And the private sector will have its own objectives, goals, and visions. So it will be [important to] align between the two."

development of programs to foster the generation of new innovations (e.g., competitions or hackathons), paired with financial support, mentorship, regulatory guidance, and other measures to help these innovations grow and access the funding that they need to scale

"[Counties should consider] running those innovation challenges or tapping into existing incubators and telling them, 'Hey, we have this problem, can you solve this problem for us in primary health care?' The incubators already have the structures in place and probably will be able to have line of sight of which entrepreneurs to incorporate and [how to] run that challenge… But as you run those competitions, make sure that solutions are fit-for-purpose, that they're practical and there's a line of sight of how they'll be adopted, not just politically, but programmatically and financially."

establishment of public-private partnerships (PPPs) and other multisectoral partnerships that include representation from community groups and leaders

"Look at [the] PPP framework and create a PPP framework for service sectors like healthcare…[and] make that process transparent,…with clear timelines."

advocacy for health innovations within government and among the public to increase education efforts and promote greater understanding of the value of innovation in the healthcare space

"Sensitize the leaders so that they can understand the importance of investing in healthcare and then sensitize the communities so that they understand the importance of investing in primary healthcare."

establishment of standard procedures for official government evaluation, validation, approval, and endorsement of innovations

"[The public sector should] be more proactively involved in trials of such innovations… the government could fund those kinds of trials or assessments or evaluations…with other countries or even with other countries. That can really help show that these things [innovations] work or [that] they don't work, or how they work or how they don't work."

Additional strategies for overcoming barriers to scaling center around promoting greater cooperation, alignment, and coordination between stakeholders across multiple sectors. To make progress towards this, participants recommended approaches to increase opportunities for coordination among government, the private sector, and innovators:

- regularly holding meetings to bring together stakeholders from these groups and create forums for knowledge sharing and discussion
- multi-stakeholder cooperation to educate policymakers and community members about PHC innovations
- aligning resource allocation and coordinating efforts across sectors towards the common goal of creating additional funding mechanisms to support existing innovations and promote new ones

> "[Include] the development partners when it comes to decision-making on some of the approaches that should be used. ...They know of models that have worked in other countries and therefore governments should take the initiative of sitting with these people and co-creating models that can sustainably facilitate access to good health services."

Innovators may also take actions to overcome barriers to scaling, such as:

learning from and adapting successful models from other contexts, including international, to effectively build upon existing work and avoid duplication of effort

"I would encourage...[a] focus on implementation of existing innovations, local and international, to be successful and stop wasting time and money on some of these things."

"Collaboration as opposed to duplication...this is where we have a challenge of a huge plethora of innovations where the difference in improvements from previous existing solutions is really marginal."

"We don't only have to look within [for solutions], we really can look outside and something we've learned as a team is there's a lot of potential cross-learning across countries"

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working closely with communities to design innovations, gain input and feedback, and adapt the innovation to local contexts

"Be very user-centric...including financial aspects that meet the user's expectations or capabilities to pay, meet the users' ability and capability in terms of their technological knowledge or their digital skills or their literacy or their time that they have available...or their interest or their motivation or their willingness"

"What we've seen is that it really helps with customizing the program to get feedback from the communities, from the partners, from the ministry, and then take that into the program [and] to the specific country or community or county."

"One of the successes is ensuring that the idea originates from the community, based on the community response as opposed to a boardroom discussion."

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dedicating time and resources to educate and sensitize users and consequently increase demand and uptake

"We should really be spreading the gospel of primary healthcare in the professional societies, within the Kenyan public, with our technocrat and treasury and the decision makers."

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creating financial sustainability plans from the outset (i.e., during the initial stages of development of the innovation)

"[It is important to have] some kind of viable business model in terms of who would pay for the running cost or the setup costs. Those people that would pay, will they be able to pay? And going to pay on time? And so on. Whether that's a donor or whether it's a government or whether it's a citizen or whether it's a facility or whatever it happens to be."

"Pretty much every model that I've seen that's been successful has some degree of cross-subsidization with another market segment, either folks located in an urban area or in some cases, a completely different revenue line altogether."

DISCUSSION

Actualization of Kenya's commitment to achieve UHC through the transformation of PHC systems and establishment of PCNs will require the successful integration of innovative solutions at scale that leverage the PCN model to improve service delivery and health outcomes throughout the country's decentralized health system. As Kenya rolls out the PCN model and looks to integrate healthcare innovations that support its UHC goals, a critical success factor called out by experts is the role of communities. In line with the WHO's people-centered health systems approach, our respondents provided perspectives on how PHC innovations that succeeded took healthcare out of static facilities and contextualized care to meet specific demands of the communities they serve. Experts spoke on the need for innovators and health systems to embed community sensitization and provide channels through which community members can share feedback as the innovation is implemented. The relationships built with communities form a cornerstone of the network of stakeholder relationships needed for PHC innovations to scale.

Other commonly cited success factors for the adoption and scaling of PHC innovations include sustainable financing, a network of relationships with key stakeholders, and product-market fit. Interestingly, apart from product-market fit, which speaks to the quality of the innovation, the other success factors focus on building connections and resources to ensure sustainability of the innovations. Therefore, successful adoption and scaling will rely on identifying those PHC innovations that promote user-centered care and prove to be fit for context. Once these aspects are clear, the innovator and the scaling partner need to work on developing a network of relationships and resources that will enable the innovation to be implemented sustainably at scale.

Proactively developing strategies to achieve financial sustainability is key to the long-term success of health-focused innovations, as many health innovations in LMICs depend to some degree on potentially inconsistent or irregular sources of funding, such as grants and charitable donations. Financial sustainability plans position innovations to attain greater financial independence and to generate revenue streams that can scale along with the scaling of operations. The successful implementation of an innovation's financial sustainability plan may also be impacted by external factors, including the availability of funding mechanisms, both charitable and non-charitable, on national and international levels. Therefore, a landscape that has clear structures for health financing coupled with diverse sources of funding for growth-stage innovations promotes innovation scaling.

Digital health innovations may demand an understanding of specific technologies for successful use and scale. Users also need support to develop and implement new workflows that may be needed for the adoption of PHC innovations.

The context within which a PHC innovation will be introduced could be a barrier to its adoption. Our respondents spoke about both the human aspects and infrastructural aspects of the implementation environment. Engaging with the right people at the right time is crucial to the successful adoption and scaling of innovations. Organizations advancing PHC innovations therefore need to engage with the potential users of the innovation as well as the communities benefiting from the implementation of the innovation early in the adoption process. While the users and beneficiaries may at times be the same, often health workers are the target users, and they need to have the technical skills required to implement an innovation. Digital health innovations may demand an understanding of specific technologies for successful use and scale. Users also need support to develop and implement new workflows that may be needed for the adoption of PHC innovations. In addition, these innovations tend to be more successfully adopted when infrastructural aspects such as required equipment and internet connectivity (for digital health innovations) are available at health facilities or other implementation sites.

In Kenya and other LMICs, integration of a health innovation into the public-sector delivery system is an important scaling pathway. Therefore, one of the main barriers that needs to be addressed to scale PHC innovations is achieving alignment with public-sector priorities and demonstrating the added value of the innovation to the country's health impact goals. Experts noted that while innovators are looking for entry points into the public sector, the complexity of some government processes and regulations have hindered the successful scaling and integration of PHC innovations in Kenya. Therefore, policymakers and other system facilitators need to consider the policy and regulatory environment when planning a scaling strategy for such innovations.

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The successful scaling of PHC innovations in Kenya and other LMICs depends on designing models adapted to local contexts and equipped with resources and structures for scale. The PHC innovations will also need support from external factors to enable a sociocultural, economic, and policy environment conducive to their growth.

RECOMMENDATIONS

The research insights highlighted in this paper point to several actionable next steps for policymakers, funders, innovators, and organizations implementing PHC innovations:

1 Make communities central to the adoption and scaling of PHC innovations.

Incorporating the community in the healthcare delivery model is one of the key success factors identified for scaling PHC innovations. To do this requires working closely with CHWs, seeking the input of community members and local governments to understand their needs, and involving these groups during the design and implementation stages. This will, in turn, foster community ownership and help in ensuring sustainability of these projects.

2 Secure sustainable funding to drive successful scaling of PHC innovations.

With the expansion of UHC in Kenya, ensuring sustainable financing of PHC will be critical. The country needs to provide adequate resources for integrated PHC service delivery. Once the public sector has reasonable funding for PHC, it will be easier to sustainably scale PHC innovations through the public health system as this will not primarily rely on grants or other charitable funding. While innovators should develop a revenue generation model that ensures sustainability over the long term, this should be coupled with funding from the government when it chooses to embed a PHC innovation in the public system. Mechanisms such as cross-subsidization offer a useful transition plan for funding the scaling of PHC innovations. Additionally, enabling payment for PHC innovations through pre-existing public healthcare programs such as the National Hospital Insurance Fund (NHIF) will establish reliable platforms for increasing the financial base of health innovations.

3 Make health systems innovation-ready.

For PHC innovations to achieve sustainable scale and become embedded in the health system, it is important to create and increase awareness of the impact of innovations within the political class and institutions involved in the policymaking process. This will help reduce the current policy and regulatory barriers faced by health innovations seeking to scale in collaboration with the public sector. Moreover, county and national governments need to ensure that the health infrastructure and health workers are ready to adopt PHC innovations by providing training and resources to support the implementation of promising innovations.

4 Recognize that contextualization is key to the adoption and scaling of PHC innovations.

Kenya is a diverse country, and to ensure uptake and impact, it is important that an innovation responds to specific needs of the communities in which it is being implemented. As an innovation is adapted into new contexts, conducting market research on the unique needs of users is critical in helping innovators tweak their products and service delivery models. Also, raising awareness among target users is key to creating demand for the new or improved health services; this can be achieved through leveraging community health structures. Finally, establishing knowledge platforms to share lessons on the implementation of PHC innovations can prove beneficial to their adaptation and scale.

5 Focus on coordination and collaboration to enhance the adoption and scaling of PHC innovations.

Stronger coordination among local, regional, and national levels of government in PHC matters will strengthen the innovation ecosystem and increase efficiency by reducing duplication of efforts. Kenya can use platforms such as the Council of Governors and processes outlined in the Intergovernmental Relations Act to promote collaboration toward adopting and scaling PHC innovations that contribute to UHC goals. Kenya is a mixed health system, with the private sector playing a significant role in service provision. Therefore, public-private collaborations—including PPPs—can leverage the financial resources and technical know-how of the private sector to enable faster adoption and scaling of PHC innovations.

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ABOUT THE PROJECT IMPLEMENTERS AND FUNDER

The United Nations Sustainable Development Goals Partnership Platform–Kenya (UNSDGPP) is a UN development assistance platform spearheaded by the Kenyan government with the support of the UN system in Kenya. UNSDGPP aims to take leadership on the overarching facilitation and coordination of public-private collaboration, demonstrating how it can effectively translate sustainable development goals (SDGs) into action on the ground and thereby guide and accelerate innovations and impact, maximize investments, and optimize resource utilization in support of the realization of Kenya Vision 2030 and the "Big Four Agenda" which focuses on developing universal healthcare, manufacturing, affordable housing, and food security.

Innovations in Healthcare (IiH) is a nonprofit organization hosted by Duke University and founded in 2011 by Duke Health, McKinsey & Company, and the World Economic Forum. IiH seeks to improve healthcare worldwide by supporting the scale and impact of promising innovations. The nonprofit collaborates with and receives support from a global and diverse group of organizations, including corporations and foundations that are committed to strengthening and increasing the scale of healthcare innovations.

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