INNOVATIONS IN HEALTHCARE™

UNDERSTANDING GLOBAL HEALTH INNOVATION ECOSYSTEMS:

Insights for Innovators, Funders, and Policymakers

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Introduction

As the need to design innovative approaches to solve intractable global health challenges around the world increases, so does the significance of the presence and accessibility of enabling environments for these approaches to be successful – from conceptualization of an idea, development of a prototype, implementation of a pilot, and scale-up of validated solutions. Such enabling environments require a confluence of interdependent actors, including the private sector, policymakers, entrepreneurs, health systems, funders, and non-health players to collaborate in order to achieve their shared vision in addressing common challenges. Through the work of the International Development Innovation Alliance (IDIA), over the last decade, innovation ecosystem creation and strengthening has emerged as a strategic priority for international development agencies in 2020 [see definition below[1]].

INNOVATION ECOSYSTEM

An Innovation Ecocysem is made up of enabling policies and regulations, accessibility to finance, informaed human ca;pital, supportive research, markets, energy, transport and communications infrasctuture, a culture supportive of productive relationships between actors and other parts of the ecosystem.

-International Development Innovation Alliance[1]

Given the dynamic and diverse nature and set of actions involved in building up global health innovations for success, including through the active support and facilitation of innovation ecosystems, key stakeholders are often spread out across geographies, sectors, and levels within systems and units. With this complexity in creating and strengthening global health innovation ecosystems, ecosystem stakeholders need to better understand challenges faced in the community and enablers to mitigate challenges to effectively mobilize actors and resources.

This brief provides an exploratory analysis of the key challenges and enablers facing global health innovation stakeholders as they seek to improve access to healthcare in low-resource settings. Based on insights from field practitioners, the brief also offers practical recommendations to help innovation ecosystems flourish.

Methods

We initiated this study with an initial round of interviews among 3 global health innovation funders to identify topics that they would be interested in learning more about, specifically in relation to addressing their funding priorities. Across the various priorities they are seeking to address, the development and fostering of innovation ecosystems to help grow and scale validated innovations emerged as a leading area of interest. Based on these interviews, we identified organizations developing and implementing global health innovations and funders of such innovations to hear about their perspectives and insights to inform our research. Of the 7 innovators and 7 funders we reached out to, 6 innovators and 5 funders agreed to be interviewed. We conducted a total of 11 semi-structured interviews between April and August 2023, using an interview guide of roughly 60 minutes. The interview guide included questions about the interviewee's organization, their understanding and description of the innovation ecosystem including barriers and success factors, and how to develop and nurture an ecosystem so that solutions can leverage and build on each other to create and improve access to healthcare.

[1] https://www.idiainnovation.org/what-is-an-innovation-ecosystem, Accessed 06/30/2024

Key Findings

With the foundational work on innovation ecosystems building and strengthening done over the last decade, this research team set out to better understand the enablers and challenges that funders and innovators have faced in implementing and accessing innovation ecosystems successfully. As funders and innovators seek to create, nurture, and strengthen innovation ecosystems, recognizing common enablers and challenges faced by key stakeholders and beneficiaries of innovation ecosystems will serve to clarify opportunities for improvement in a coordinated way. The research team also explored ways to address these challenges, emphasizing collaborative models and solutions across the ecosystem.

Enablers of Strong Innovation Ecosystems

Ecosystem stakeholders converged around 4 broad categories of enablers that are central to unlocking better use and implementation of innovation ecosystems: partnerships, champions, training, and having reliable enabling infrastructure.

1. PARTNERSHIPS

The enabler that emerged most strongly from respondents centered around partnerships. Respondents emphasized that partnerships are central to the concept of innovation ecosystem, and the importance of broadening the range and type of actors to partner with. Organizations tend to find partners that are usually directly related to their line of work. However, respondents highlighted the value of finding non-traditional partners who bring new levers and new ways to solve existing challenges. For instance, Miracle Feet, an innovator working in the childhood disability space had historically built partnerships with the public sector units working on disability and rehabilitation within ministries of health. They recently realized that the focus of public health departments in many countries is moving away from reducing newborn and childhood mortality to improving quality of life by reducing childhood morbidity. With this understanding, they have now started to successfully expand their outreach and relationships to include maternal, newborn and child health departments in the launch and uptake of their intervention in various settings.

> *What's been helpful is to expand the conversation that we or our partners have in the countries where we work, outside of the very small disability or rehab sector. So when we've expanded the conversation to policymakers who are in charge of newborn health programs, like a light goes on and that's been really, really important. Again, we want to see clubfoot treatment be given in a routine manner, just like when babies are born, they get polio vaccines, right? They're referred to their immunizations. We want this same pathway for referral for any baby born with clubfoot. (Innovator)*

In addition, as the innovation ecosystem focuses on enabling person-centered care along the entire patient journey, players are recognizing the importance of connecting with new and different partners who can help integrate care along the health continuum for patients.

> *How would an organization like us partner with others that are innovating along that chain? To really think about the patient journey and the quality of care and the health outcomes. That is going to be one of the unique aspects that you have to recognize, that health outcomes and universal health coverage cannot be done in silos. Everyone plays an important part. And so to me that's where we're constantly scanning the horizon to understand who's doing what or who government might be working with in partnership as well along these different areas. (Innovator)*

2. TECHNICAL ASSISTANCE FOR IMPLEMENTATION

In many countries, the public sector, powered by a large cadre of frontline healthcare workers, is the biggest provider of health services. Particularly for interventions that targets healthcare workers in primary care settings, user engagement with an intervention can be limited if the workers do not have the technological understanding to use it effectively. Making the implementation of the intervention simpler, easier, and more effective to use by frontline healthcare workers relative to the approaches currently in existence, is a critical enabler in adoption and subsequent scale up by the government. To ensure greater responsiveness of policymakers to an innovation, private sector innovation organizations, especially innovation developers and implementers need to understand how their innovation can fit within existing health systems and structures, while meeting government priorities and challenges.

> *The important thing about treatment is training providers, who are paid for by the national health systems. We upskill them and then they have that skill forever and, you know, even if they get transferred to another hospital or something, they can take that with them. That's really important because if we were paying providers even some kind of a per diem or honorarium, then the minute that payment stops, right, what's the incentive to keep going? (Innovator)*

Developers noted that to get political will and commitment for their innovation, they have to work with the government to create a roadmap for implementation, including providing training to healthcare workers, and demonstrating ease of use, benefits, and efficacy to providers, patients, and caregivers.

> *But the implementation science and how to help government work through the implementation piece, and then how would you take that forward at scale? What would be the best approaches to training? What's the best approaches to data and feedback loops? What are the evidence of efficiencies? That's where we can step in and where we did step in last year and sort of build that evidence based of how it would work and then we can use that for advocacy, you know elsewhere. The questions that might need answering for government, all the things that could be really advocated for policy change, which could have a radical impact on health and health systems. (Innovator)*

3. CHAMPIONS

Respondents noted that the presence and efforts of champions to marshal diffuse innovation ecosystem stakeholders to implement new approaches and solutions could be a key factor in the success of the innovation. A champion takes a proactive and dynamic approach to bringing about the success of a new intervention that includes identifying and developing relationships with the right stakeholders, building coalitions, coordinating activities with stakeholders, and securing resources. Notably, champions can be within the government who are deeply committed to solving the specific problem, and will work to secure buy-in internally for validated innovative solutions, or they can be drawn from the broader ecosystem, including providers who clearly see the need for the innovation.

> *You need government buy in. If you don't get it early, especially if it's something that will end up requiring government support, the buy in doesn't come easily. If you have a champion within government, life would be much easier. (Investor)*

> *We also look for medical champions. Most likely what we see is in most countries is that there's somebody providing treatment, but maybe imperfectly. Maybe, you know, without a lot of training, but there's usually people already trying to do this work, so sometimes they reach out to us and they say, can you help us? And when you find medical professionals who like it and love it like they become such champions of it and so you know, these incredible people, these heroes, really who love this. (Innovator)*

4. RELIABLE INFRASTRUCTURE

Some respondents noted that when available, reliable electricity and internet connection are great enablers in improving access to healthcare in last mile settings. Especially when care delivery systems and applications function offline, and have uninterrupted supply of electricity, frontline workers are able to provide uninterrupted, needed care even in difficult to reach communities. Additionally, it enables providers to have access to longer-lasting medicines, better use diagnostics and medical devices, and provide higher-quality treatment. Innovators that are able to channel solar energy to run their healthcare facilities and clinics report success in reaching patients in remote and underserved areas.

> *The solar infrastructure is now part and parcel of the innovation for it [the innovation] to work, especially for us, in the provision of primary healthcare, as our target areas are remote, hard to reach or underserved areas. In most of the areas where we have our facilities, either the main grid power is not reliable or it's not there at all. Also, the main grid power is now getting expensive, especially in our space. So if you're going to move towards sustainability, then our solar power is now part of what we consider part of our innovation. (Innovator)*

Challenges Faced in Strengthening Innovation Ecosystems

Across the ecosystem, key challenges reported in our KIIs fall into 4 broad categories: non-existent data systems and technologies, lack of coordination among diverse stakeholders, inadequate financing for sustainability, and lack of awareness.

1. DISCONNECTED OR NON-EXISTENT DIGITAL HEALTH TECHNOLOGIES

DIGITAL HEALTH

The systematic application of information and communication technologies, computer science, and data to support decision-making by individuals, the health workforce, and health institutions, to strengthen reslilience to disease and improve health and wellness for all.

-USAID[2]

Accurate, secure, and interoperable digital health technologies enable more widespread access and of data to drive better and more informed decision-making to improve patient and population health.[2] Respondents noted the importance of capturing relevant and timely data to be able to track improvements in diagnosis, treatment, dropouts, and quality of care across the spectrum of diseases and patient journey. Similarly, governments need access to the right data systems to measure unmet health needs as well as to plan resource allocations to address needs. The public sector also needs to have data systems to understand

[2] https://www.idiainnovation.org/what-is-an-innovation-ecosystem, Accessed 06/30/2024

ways to distribute the treatment and make it available and accessible to those in need. However, where existent, data is often fragmented across levels of the health system, siloed by disease areas, and disconnected across key actors in the health system. Therefore, policymakers are unable to assess and understand needs, or identify the best ways to address them with limited resources.

> *You absolutely need to have the data systems and linkages with the local government.. as we also need to share some level of data with them. Because somebody like us <innovator organization> is not providing the complete continuum. We are only dealing with primary care. So then proper data needs to be shared with the health departments so that they can appropriately act upon referrals and other demographics and other data from that target area. So those linkages are absolutely necessary, but are missing now. (Innovator)*

2. LACK OF AWARENESS

Getting the word out on an innovation is very hard, especially for health concerns that affect women and children disproportionately such as reproductive and maternal health, or are already controversial such as club foot or cervical cancer. Therefore, it is important to destigmatize controversial or sensitive and stigmatized health topics. As innovations are developed and implemented to solve existing challenges, patient, caregiver, and provider communities need information and awareness of both the issue that the innovation is solving for, as well as the innovation itself. Here, innovators and funders note the significant challenges they face in raising awareness for a disease or concern in different contexts. Respondents also emphasized the importance of building on lessons and best practices from past validated innovations, including behavior change approaches that have worked in that context for a different health topic.

> *A baby with <disability> is seen as a curse as an issue, as an issue related to the fault of the mother. When that baby is born, there isn't that awareness from that midwife, the traditional birth attendant, to allay the fears of that family, and that family will most likely right away go hide that baby, which then becomes even harder for that baby to be identified and referred to treatment. So much of the work that we do is around raising awareness and destigmatizing disabilities specifically and being able to say this is not the fault of the mother. This is not a curse. This is a birth defect. It can affect anybody. Here's where you can go for treatment. So we do a lot of awareness raising posters and community sensitization. For decades, a lot of work with faith-based leaders, churches, church elders. In the context of West and Central Africa, for instance, the hardest part is getting the word out and then almost the easiest thing is getting those babies in treatment. The rest is kind of easy. So we're not tackling this in a new way, but there's been best practices from all sorts of other health issues. I mean, for a long time and still again HIV and AIDS, right? It's super stigmatized. So how do you how do we build on those things? (Innovator)*

3. LIMITED ACCESS TO FINANCING

Financial sustainability of innovation-focused organizations is a critical moving target that is lined with several challenges along the way. Given the nature of the work done by innovation organizations for- and not-for-profit, it is important to have a robust pipeline of traditional grants and philanthropic based funders, who are willing to take risks, by learning and exploring, and through trial and error. However, several low- and middle-income countries, particularly Sub Saharan Africa, have historically not had significant sources of investments other than grant funding and development aid, resulting in a rising unmet need for innovative financing mechanisms including venture capital to be able to take up innovation to scale.

Furthermore, funders are often willing to fund proven, validated innovations, but not riskier, new, early stage ideas or to take an innovation truly to scale at the later stages. Funders are also focused on project-based results, and do not fund core organizational growth and development. But core funding is needed for organizational viability independent of any specific project funding. More importantly, core funding improves overall organizational capacity and efficiency which would ultimately improve the capability of the organization to deliver stronger, more impactful programs. Health enterprises need early, unrestricted and failure-friendly philanthropic funding to test and validate, and the ecosystem needs funders to play a catalytic role in de-risking investments to enable other players to enter the field.

> *...but actually there's a point where once you've developed your proof of concept, you really need the core funding to grow. And I think finding the funders that are willing to say we will fund the strategy, we will fund your business development, we will you know, I mean there is the unglamorous components of an organization which if you really want that organization to scale and succeed, you know that you need those investments. (Innovator)*

On the other hand, investors and funders note the lack of availability of coordinated and accurate information on innovations. This challenge, in conjunction with the perception of weaker infrastructure, regulatory structures, and poor understanding of how innovations work, leads funders away from investing in such enterprises. Although the gap in the availability of patient, catalytic, and innovative financing has been widely recognized in the field, few solutions have resulted in sustainable funding mechanisms.

4. LACK OF COORDINATION AMONG STAKEHOLDERS

The lack of coordination among ecosystem stakeholders, including funders, government bodies, and social enterprises is noted as one of the biggest gaps in the innovation ecosystem. Funders and innovators point to the disjointed, piecemeal efforts to fund, support, and implement innovations, with stakeholders often working in silos, and diluting, rather than strengthening the work of other players in the ecosystem. Across the field, there is a general frustration with duplication of efforts in funding same and similar innovations, inability to find ways to share common challenges faced or lessons learned, lack of coordinated handoffs, and lack of mechanisms to create stronger integrated solutions that address challenges, and ensure scale and sustainability. While several respondents note that the existing ecosystem is fragmented, a well-coordinated ecosystem has the ability to result in a multiplier effect.

> *A lot of times also, individual donor organizations or relevant players that finance these innovations sit in their silos and then reinvent the wheel frequently. So you have a lot of parallel developments in that ecosystem. That shouldn't happen, because if you actually have an ecosystem, people know about each other and then you don't need to be repetitive. But it feels a little bit sometimes like people are sitting in their silos and waving a collaboration flag at the top, but what really should happen is to break down those silos. (Investor)*

The ecosystem is in dire need of more organized pathways for funders, investors, innovators, and government actors to work together, starting with identification of governmental priorities to the joint identification of solutions from their portfolios and support for the implementation, validation, integration, and scale up of solutions.

Recommendations for Innovation Ecosystem Stakeholders

The findings from this exploratory research highlight several insightful recommendations for funders and investors, innovators, and policymakers.

1. DEVELOP AND INVEST IN DATA SYSTEMS

Multilateral funders and national policymakers should invest in data systems to enable efficiency and value gains to all stakeholders. National data and research infrastructure and capacity can be developed as multisectoral partnerships across governments, universities, donors, and patient populations. Besides harmonizing data across multiple health systems and health areas, access to reliable, accurate, and timely data can enable tracking of patients from prevention and awareness to treatment, as well as formulating policy.

2. SEEK OUT NOVEL PARTNERSHIPS

Across the ecosystem, funders, innovators, and policymakers must establish uncommon partnerships to leverage complementary strengths and opportunities that can address critical cross-border challenges. Recognize and embed the principle of trust to drive collective action through durable and effective partnerships.

3. ENGAGE PUBLIC SECTOR AND END USERS EARLY

Innovation developers and implementers must initiate engagement with national, subnational, and local governments as well as end users of the innovation early in the design process, and consistently over time. Not only does early engagement with these key stakeholders enable a stronger understanding of priorities and challenges, it also allows developers and implementers to design a fit-for-purpose solution that meets user needs and addresses governmental priorities, while facilitating implementation and scale-up through buy-in from users and the government.

4. IDENTIFY AND APPOINT CHAMPIONS

Innovation developers and funders must identify, nurture, and leverage champions for specific causes who can coordinate across sectors and stakeholders to collaboratively implement solutions to intractable challenges. Champions must be empowered to engage across ecosystem stakeholders, facilitate implementation, and influence the uptake and standardization of proven solutions. Champions must also promote a culture of continuous learning, and sharing and dissemination of lessons across stakeholders.

5. SUPPORT TRANSITION TO CLEAN ENERGY

The funding community must support innovators' efforts to transition to clean energy for clinic operations and provide health service delivery at the last mile. Funders must aid in the building of stronger and more resilient health systems with the goal of providing access to healthcare among populations that are most affected by the climate and energy crisis to ensure that health services delivery is maintained despite challenges.

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About Innovations in Healthcare

Innovations in Healthcare is a nonprofit organization hosted by Duke University and founded in 2011 by Duke Health, McKinsey & Company, and the World Economic Forum. Our mission is to increase access to quality, affordable healthcare worldwide by scaling leading innovations. We work with over 100 healthcare entrepreneurs in more than 90 countries and provide capacity-building training and consulting to healthcare systems throughout the world. We work closely with our partner, the Duke Global Health Innovation Center, toward our shared vision of a world where innovation improves health for all. By combining academic excellence and global engagement to improve health, we improve access to quality, affordable healthcare worldwide.