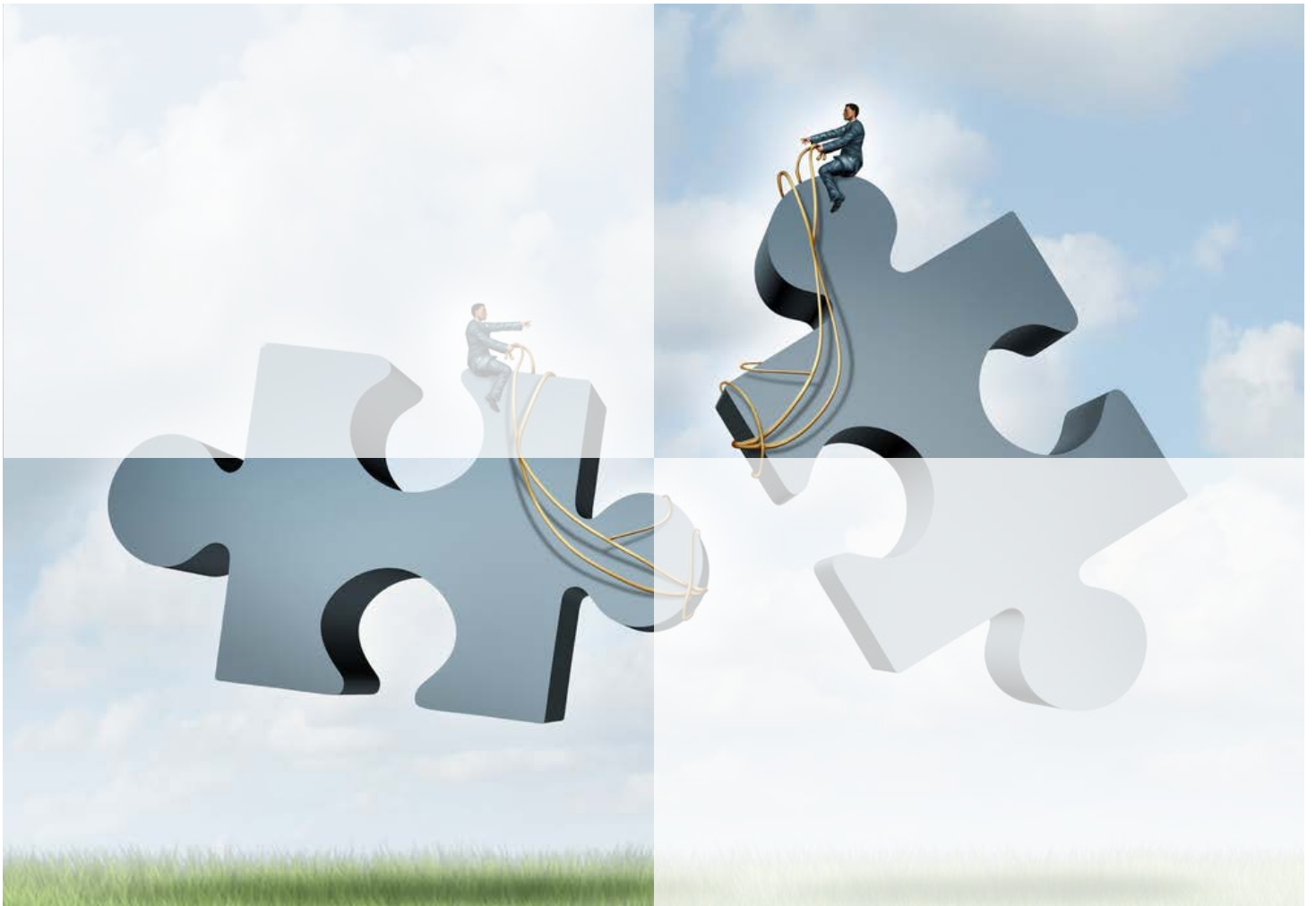


Industry Agenda

Health Systems Leapfrogging in Emerging Economies Ecosystem of Partnerships for Leapfrogging

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Preface



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How can we design sustainable health systems that provide high-quality care to all in emerging economies?

The three-year leapfrogging journey started with this question—and a hypothesis that replicating the health systems of developed economies is not the answer. Rather, we should rely on innovation to redefine how society prevents and treats illness. Our approach had two objectives: 1) generate relevant insights to show the way and empower stakeholders, and 2) provide concrete, on-the-ground impact by setting up leapfrogging programs in selected countries.

The three leapfrogging reports have addressed probably the most pressing questions around innovation in health: What are leapfrogging innovations? How to scale them up? What are the best partnership models to mobilize the entire health ecosystem around leapfrogging? This three-part series offers insight and support for emerging economies, by highlighting an extensive portfolio of leapfrogging innovations across the globe; establishing a roadmap to scale-up such innovations; offering a comprehensive framework to select the best partnership models; and providing a tested approach to structure and support leapfrogging programs.

We are very proud and extremely thankful to our public and private partners for the impact they have achieved on the ground. The leapfrogging program in Ogun State, Nigeria, is projected to provide health coverage to more than 100,000 people by 2018. Today, 14 initiatives have already been structured and seven memorandums of understanding drafted, and many additional private partners are in discussions to join. In Kenya, our engagement on maternal health through the “H4+ partners reproductive, maternal, new-born, child and adolescent health (RMNCAH) 6 County” program will help 6 counties that represent 50% of maternal deaths, reaching 3.5 million women and children by 2020. Less than 1 year after kick-off, 15 initiatives have been identified and two are already entering the pilot phase. Not only do we expect this momentum to accelerate in these six counties, but we also expect to see this approach replicated in the rest of the country (as well as in other African countries).

The strong support and interest from public and private leaders at the last Annual Meeting of the World Economic Forum in Davos-Klosters, as well as the multiple regional meetings, reinforce our view that leapfrogging is possible and on the rise. The World Economic Forum will continue to support governments and innovators to effectively transform health systems and, ultimately, improve the state of the world.

Introduction

“If you want to go fast, go alone. If you want to go far, go together.”
 — African proverb

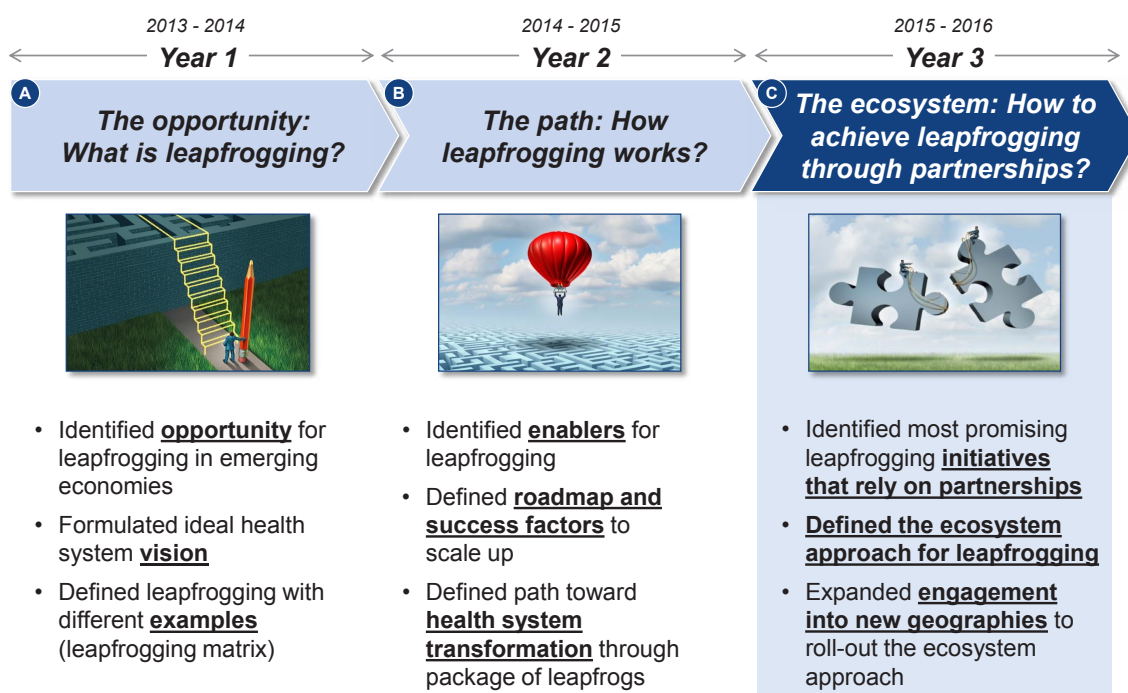
Building sustainable health systems in emerging economies is one of the biggest challenges of our time. However, following the path of established health systems in developed economies is not the answer. With so many types of innovation available today, emerging economies have an opportunity to bypass development stages that were previously unavoidable and sidestep the pitfalls of entrenched systems. We call this leapfrogging.

The Health Systems Leapfrogging in Emerging Economies initiative—now in the final year— identified leapfrogging solutions that enable emerging economies to accelerate the development of their health care systems. In the first year, we outlined a vision for an ideal health care system and made the case for leapfrogging in emerging economies. The second year developed a strategy for scaling up innovations and packaging them in a synergistic way to achieve system transformation (see Exhibit 1).

This final report focuses on catalysing change through an “ecosystem approach” to partnerships. To effectively implement health innovations, we need closer and more efficient cooperation between the public, private, and civil society sectors. The concept of public-private partnerships will need to evolve from the traditional bilateral and transactional models to an ecosystem of partnerships, where the type of cooperation changes over time and sustainability is a key objective. By successfully mobilizing and coordinating an ecosystem of large corporations, start-ups, NGOs, international and academic institutions, as well as health policy makers, we have the opportunity to transform health systems in emerging economies.

Exhibit 1: The Three-Year Journey of Leapfrogging

The innovations behind the concept, how to scale up these innovations and how to shape the ecosystem to move from innovations to system transformation



Section I. The Leapfrogging Journey

A. The Case for Sustainable Health Systems

There is an urgent need for emerging economies to invest in their health care systems.

The dual burden of communicable and non-communicable diseases (NCDs) will put a severe strain on health systems. The 2014-2015 Ebola outbreak in West Africa and the 2015-2016 Zika epidemic in Latin America serve as troubling reminders of the persistent threat from epidemics. At the same time, cardiovascular diseases, cancer, and diabetes are on the rise in emerging economies.

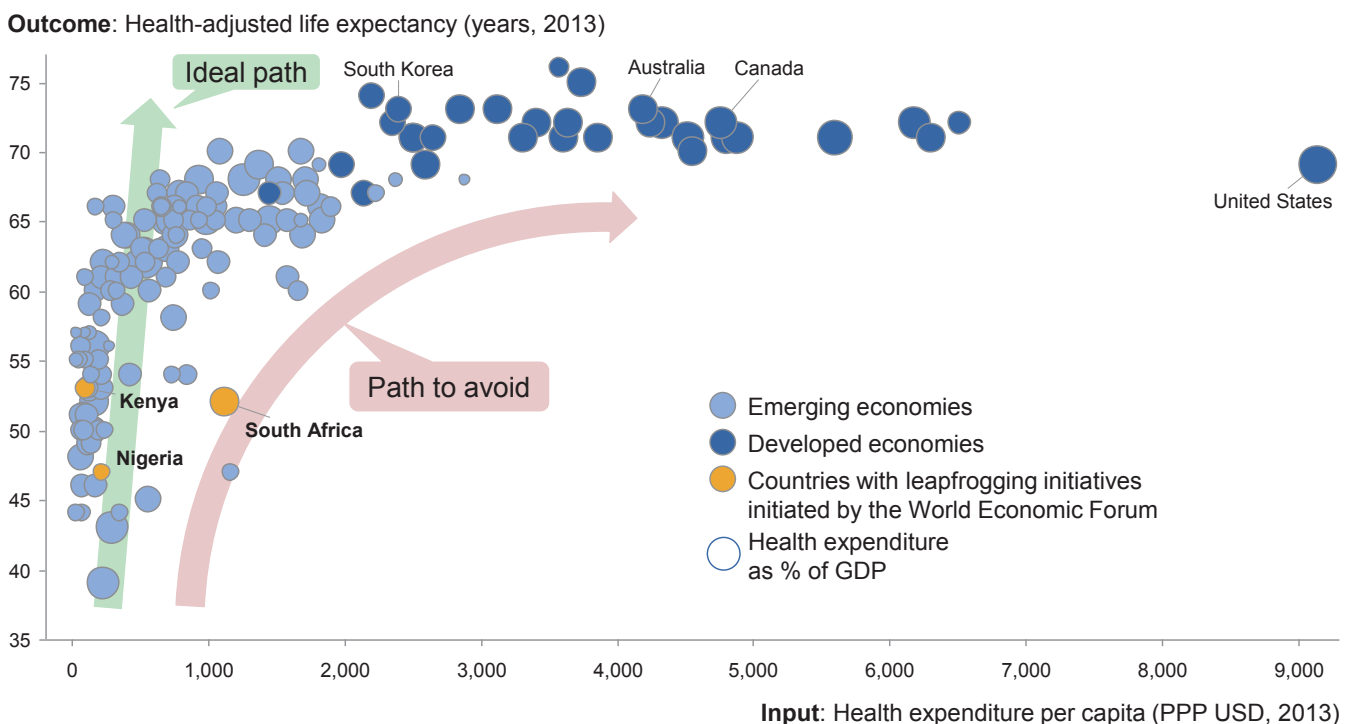
As a result, the cost of tackling this dual burden with traditional solutions is growing exponentially. UNAIDS has proposed a fast-track strategy to end the AIDS epidemic by 2030, for example—and the estimated price tag to achieve this on a global scale is approximately \$30 billion

per year until 2030.¹ Non-communicable diseases are also very complex and expensive to treat (the cost of treating diabetes is estimated at \$2,300 per patient per year in sub-Saharan Africa).² With Africa's rapid population growth and aging populations in Asia and Latin America, the demand for health services will only intensify.

Furthermore, with the recent announcement of the 2030 Agenda for Sustainable Development, which includes 17 ambitious Sustainable Development Goals, health systems in emerging economies will need to mobilize significant additional funding to meet these targets.

When emerging economies try to catch up with more advanced health systems, they often try to replicate the path of developed economies. In doing so, however, they risk manoeuvring themselves into financially untenable situations that are worse than those developed economies face today (see Exhibit 2).

Exhibit 2: Emerging Economies Must Avoid the Traditional Development Path of Health Systems



Source: WHO, World Bank, BCG analysis

B. The Triple Opportunity for Emerging Economies

While facing growing health and financial challenges, emerging economies have a historic opportunity to build resilient, equitable, effective, and sustainable health systems faster and more cost-effectively than ever before.

Indeed, there is a triple opportunity to follow a different path. First, emerging economies have at their disposal multiple disruptive technological innovations, alternative operating models, and behaviour change initiatives that were not available for developed economies when they first began to address NCDs.

Second, emerging economies are also managing larger investments in health than ever before, and they will have to make forward-thinking choices about how to allocate these additional resources. In 2014, emerging economies contributed 23 percent to global health expenditures, up from 10 percent in 1995, and they are expected to reach 33 percent by 2024—a \$4 trillion investment per year.³

Finally, there is a great opportunity for most emerging economies to invest in new solutions since they have fewer sunk costs of existing infrastructure and equipment, lower fixed costs from building overcapacity, weaker vested interests, and a less divided public opinion (as compared to developed economies).⁴

In order to seize this triple opportunity, a new level of public-private cooperation is required. Investing in private, one-off, micro-level innovations and expecting them to independently grow into transformative and inclusive solutions is ambitious in health systems where the private sector is fragmented and the public sector still controls the lion's share of resources and serves as the guardian of social equity. On the other hand, budget and political constraints limit governments' capacity to be the driver of innovation. Both sides need to work together to overcome their limitations.

Partnerships are typically formed in order to leverage the comparative advantage of each group and to scale up and ensure the sustainability of health innovations. Through partnerships, discrete groups can bind together to increase their reach, gain a stronger foothold in local communities, and boost adoption of innovations. From a financial perspective, organizations join forces to pool available funds, create new sources of revenue, leverage resources, and reduce overall costs by achieving greater efficiencies.

Yet, public-private partnerships (PPPs) in health have traditionally been treated as transactional, “contract-out” models where the government delegates a particular project to a private organization. The private sector is viewed as a vendor rather than a partner. Unfortunately, this model tends to generate distrust and debates about its effectiveness in delivering health outcomes.

Instead, we proposed a model that depends upon an ecosystem of partnerships, where a wide variety of stakeholders align to find innovative solutions to complex health care challenges and put in place the enablers needed for system transformation. Rather than identifying discrete needs and tackling them in isolation, this approach takes a holistic view toward health care. The health community first aligns on desired outcomes, then works together to apply mutually reinforcing innovations, skills, and resources from all sectors to effectively redesign, finance, and scale up the solutions. Governance and adaptation of health systems would also need to be revisited to fit the new reality, where innovation will alter existing organizations, workforce and incentives. This alternative path allows emerging economies to accelerate their route toward the ideal health system—one that achieves better outcomes, individual satisfaction, and financial sustainability.



Section II. The Value of Partnerships for Leapfrogging—and Potential Pitfalls

A. The Traditional Approach to Partnerships

Traditional PPPs in health generally fall into two categories: health development programs and infrastructure-based initiatives.

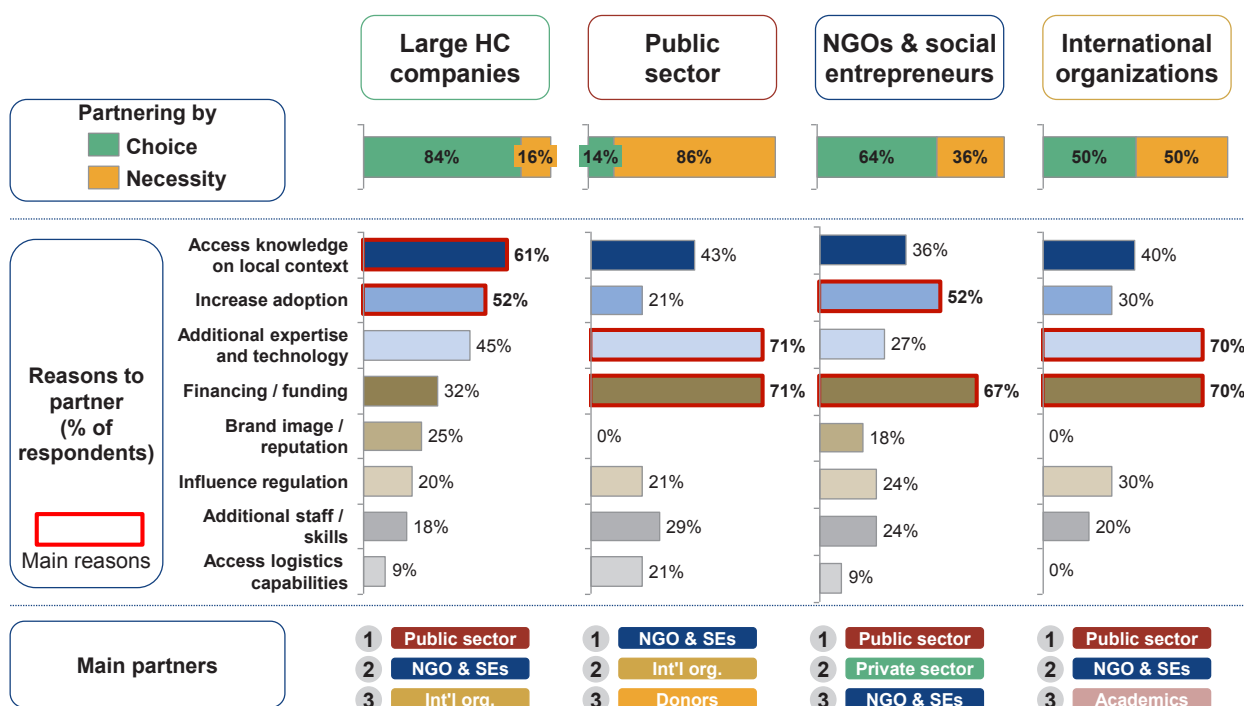
- *Health development-type PPPs.* This model, typically fuelled by issue-driven corporate responsibility and philanthropic funding, primarily focuses on providing health products and services to low-income populations through in-kind or financial contributions. The major challenge of this model is sustainability. If the private sector is unwilling or unable to sustain its contribution over time, the public sector needs to step in to fill the gap.
- *Infrastructure-type PPPs.* This model typically focuses on the planning, construction, and management of public health facilities, which may involve building a hospital, developing medical equipment, or providing medical services. The public sector delegates to the private sector based on the assumption that private companies can plan and execute more efficiently than government organizations. This model also allows the

public sector to share the financial burden and risk of health care with the private sector. However, many of these partnerships are transactional and task-oriented, without a holistic view of the health outcome to be achieved or the most cost-efficient, fast, and scalable path.

We conducted a survey asking various stakeholders across the health care community to characterize their reasons for partnering (see Exhibit 3). Over 100 people from all health subsectors, mostly senior executives were asked whether they partner by choice or by necessity.

- “By Choice”, meaning it is part of their strategy for success, it is a chosen path among many that could reach similar results (e.g., choosing to partner with local NGOs or companies to distribute their product rather than creating their proprietary distribution network).
- “By necessity”, implying they had to engage in partnerships due to lack of internal capabilities and resources to achieve the desired results and outcomes (e.g., a national government might decide to partner with private healthcare companies to develop an affordable drug treatment for disease) or the need to de-risk individual investments.

Exhibit 3: Stakeholders Engage in Partnerships for Different Reasons



Note: Each respondent could mention up to three reasons; Numbers of respondents: Large HC companies: 49, Public sector: 14, NGO & social entrepreneurs: 33, International organizations: 10
 Source: Leapfrogging survey, BCG analysis

The results from the survey illustrate the following:

- *Private sector.* Large private companies and multinationals are most committed to partnerships, with 84 percent partnering by choice. They mostly partner with the public sector and NGOs to gain a better understanding of the local community and increase adoption of their innovations. Because on-the-ground knowledge is an essential component for success in emerging economies, global health and corporate responsibility initiatives can inform broader commercial strategies over the long term.
- *NGOs and social entrepreneurs.* More than 60 percent of NGOs and social entrepreneurs partner by choice, primarily to access funding. They also engage with the public sector to connect with local communities, increase adoption of innovations, and ensure long-term sustainability.
- *International organizations.* These organizations are split down the middle, with 50 percent partnering by choice and 50 percent partnering by necessity. Their main role in partnering is to provide technical support and funding to governments and other country-based public sector organizations.
- *Governments.* The public sector reported that they partner by necessity more than any other stakeholder surveyed; 86 percent said they need to partner with NGOs, international organizations, and donors to access funding, expertise, and technologies.

The difference in answer to the question “By Choice” or “By Necessity” of the public and private stakeholders might reflect the difference in delivery approaches and organizational philosophies. While the private sector sees partnerships as a step in their growth in health care markets, many governments see health care as a public good that should be delivered by the state. Having to rely on a private partner could be seen by some governments as the result of an undesired limitation in public service delivery capabilities.

In practice, since both sectors engage in negotiations and collaborate with each other, it seems that there is not a big difference in the rationale for engaging in partnerships. However, the difference in perception is striking; it illustrates the diverse approaches with which the private and the public sectors engage in partnership discussions.

The divergent perspectives on PPPs from stakeholders mirror the mixed results that the traditional approach has provided thus far. What lies at the source of such ambivalence about PPPs?



B. Pitfalls of Traditional PPPs

In theory, the alliance of two or more forces to improve health outcomes should be a winning proposition. But often this is not the case, and much of the problem stems from the origins of PPPs themselves.

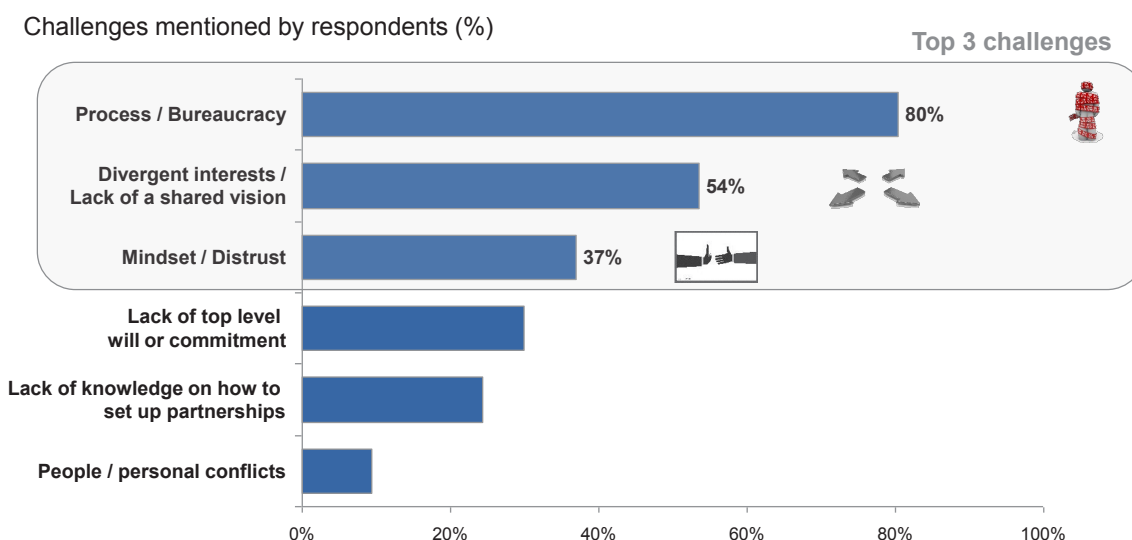
Originally devised to construct fundamental infrastructure in emerging economies, PPP contracts have historically relied upon a rigid format. The public sector defines a specific task—and various stakeholders bid for a contract to fulfill it. But as health needs have evolved and grown more complex, this approach has led to an inability to deliver on the fundamental objectives of the contract and eventually to mistrust among partners. The public sector has become suspicious of the private sector’s profit motive and their reluctance to go beyond the defined task. The private sector has seen no clear incentive to invest in designing new solutions as the government tenders a concrete task, usually limited to a specific part of the health system; and not a “desired outcome”. Tenders structured in such way create multiple constraints in terms of service offering, workforce, pricing, and regulation, to name a few. All these elements limit the room for innovation and reduce the incentive to invest in developing new solutions. It is therefore more cost effective for private companies to opt for offering existing solutions from developed markets: an approach that is ineffective and inspires further mistrust. In response, the public sector may develop stricter regulations and controls to ward off one-size-fits-all solutions, but this can add layers of bureaucracy and limit innovation (see Exhibit 4).

One of the main stated advantages of PPPs is their ability to improve outcomes while also reducing costs, but some high-profile failures have fuelled scepticism. Traditional

PPPs, when competing for a task, not a need, often do not consider the long-term implications of their decisions. Cost-cutting measures in the short term can generate additional expenditures or undesired outcomes over the long term. Furthermore, the private sector expects to see a return on their investment, often in the short run, which means PPPs need to demonstrate tangible results and may be expected to meet specific revenue targets. If the value of a PPP stems from increased efficiency, for example, these gains must be quantifiable and large enough to satisfy the expectations for returns of private sector partners. If incentives are not properly aligned, this pressure to generate immediate profits through efficiency gains in one project can turn PPPs against their own objectives.

In Lesotho, for example, a PPP venture built a new hospital in the capital city of Maseru with the goal of providing high-quality services more efficiently. Oxfam discovered that the hospital consumed 51 percent of the country’s total public health budget and cost at least three times what the old public hospital would have cost today. The government even believes it would be more cost effective to build a new district hospital in the capital to treat excess patients rather than pay the private partner to treat them.⁵ Part of the problem with this project stemmed from unexpected overrun costs; patients travelled long distances to receive care at the new premium facility rather than visiting their local primary care centres, which dramatically increased overall health care costs. Public-private arrangements need to be defined in a collaborative approach and allow for sufficient discussion and analysis in their design phase to anticipate these types of unintended consequences.

Exhibit 4: Bureaucracy, Lack of Shared Vision and Distrust Are the Main Challenges in Establishing Successful Partnerships



Note: Each respondent could mention up to three challenges.
Source: Leapfrogging survey, BCG analysis.

The scepticism about the value of traditional PPPs extends beyond emerging economies. Even countries like the United Kingdom that have pioneered PPPs in health care have begun to question their value. In a 2011 report, the UK Parliamentary Treasury Select Committee concluded that traditional PPPs cannot be “relied upon to provide good value for money without substantial reform.”⁶

The literature does not also have robust answers to a fundamental question: do PPPs improve health outcomes? Very little data on outcomes has been collected and analysed. A 2014 report systematically reviewed 1,400 papers on PPPs published over the last two decades and found that in many cases hospital quality was not unambiguously better when managed by PPPs, and facilities management services actually provide lower value for money.⁷

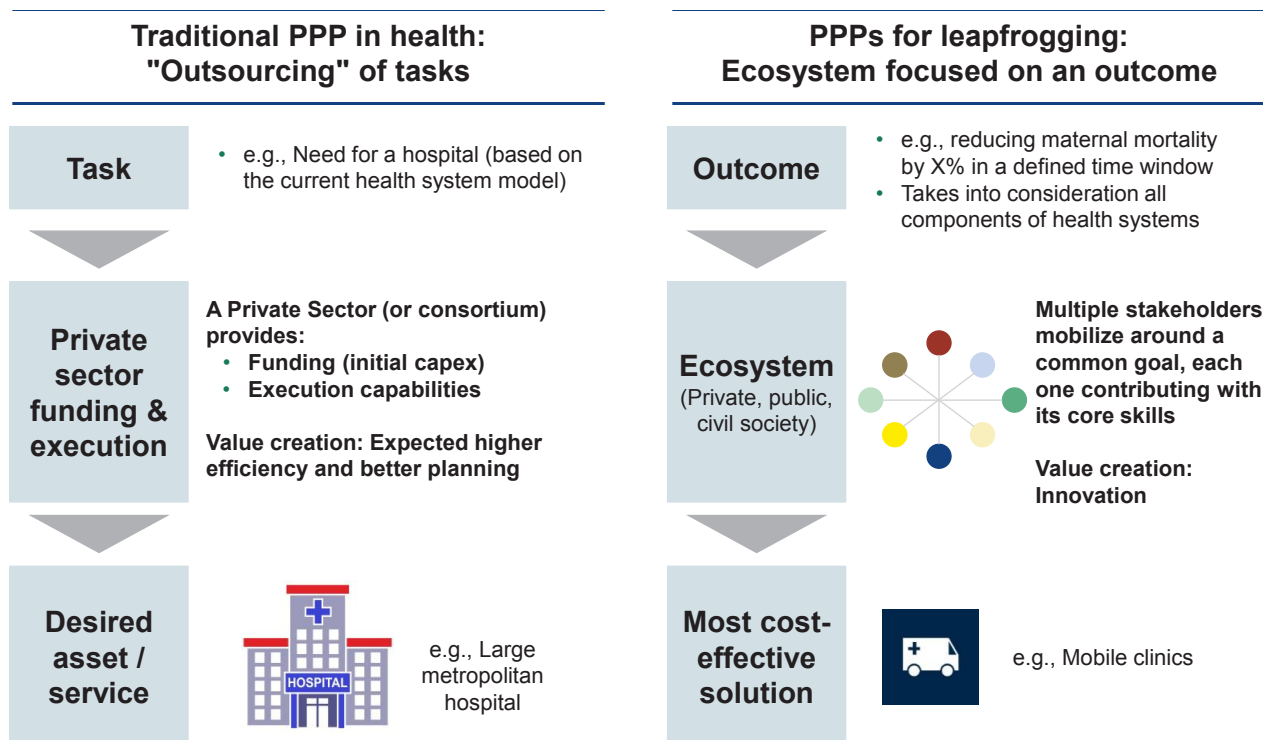
Finally, PPPs can address urgent health issues in vertical programs—with extraordinary results—but even these highly successful programs can cause challenges in the long run when carried out in isolation. Kenya’s Ministry of Health established the National AIDS Control Council (NACC) in 1999, which has been very successful: since its launch, the rate of new HIV infections has been cut in half⁸ and mortality for HIV and tuberculosis has dropped by one-third.⁹ Yet, the proliferation of verticals can lead to coordination challenges and duplication of efforts,

particularly in data reporting. Furthermore, a significant investment in a specific program, like neglected tropical diseases, can create a kind of “gravitational force,”¹⁰ where the host country sends its best staff to focus on a single area, which may unintentionally harm other higher priority areas for the country.

In short, a review of the literature clearly illustrates the mixed results from the traditional PPP models. Even setting aside the PPP limitations, in their current design form, they are fundamentally not suited to support a system-wide health system transformation. A systems approach needs to be based on a population need to be addressed with a desired, pre-defined outcome. This need should then encourage stakeholders to form partnerships in a well-planned, yet flexible model that can generate the proper level of incentives for meaningful cooperation and promote healthy competition to spur sustainable innovation.

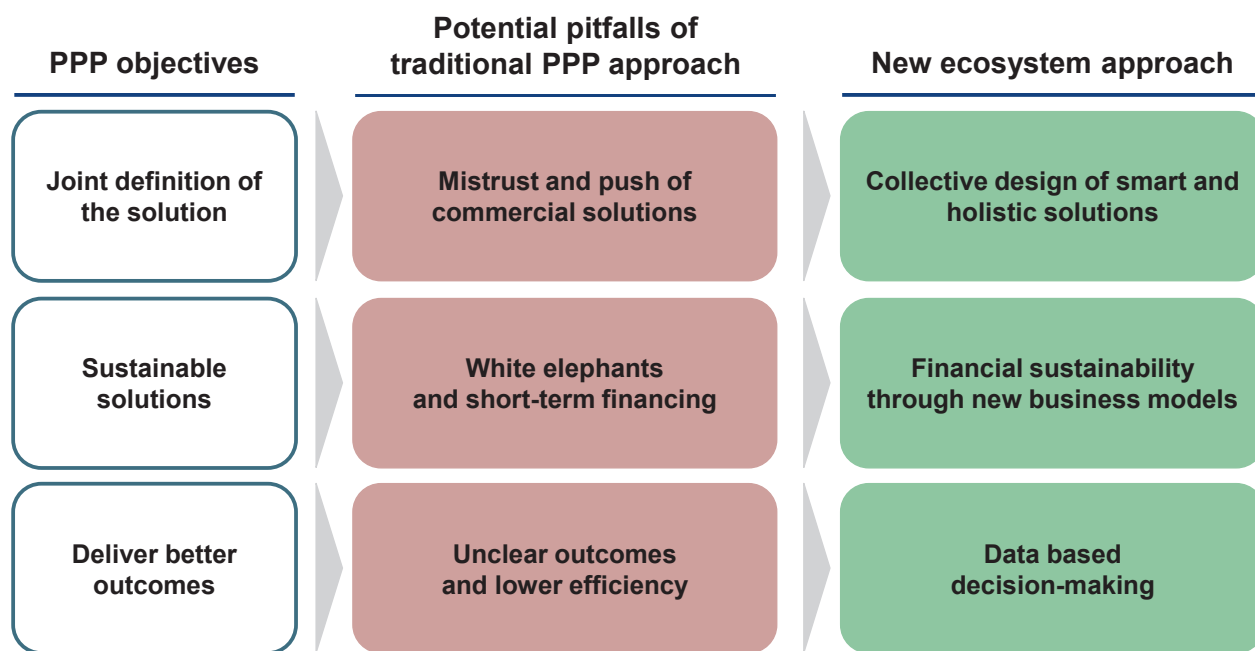
For health systems in emerging economies to successfully leapfrog, they must embrace a new approach to PPPs—one that is not derived from the traditional infrastructure-based model (see Exhibit 5). The new approach must take into consideration the unique needs of various health systems and their populations, coordinate programming efforts, and leverage the strengths of all stakeholders. We call this the ecosystem approach to partnerships.

Exhibit 5: Leapfrogging Requires a New Approach to Public-Private Partnerships



Section III. A New Approach to PPPs: The Ecosystem

Exhibit 6: The New Ecosystem Approach for Partnerships Aims at Transforming Health Systems



The ecosystem model offers an effective way to collectively design smart, simple, financially sustainable solutions tailored to local communities—and these solutions are at the core of leapfrogging. Ecosystems can become a tool to design innovations, realign incentives, and better allocate value. Ecosystems could be designed to capture the value of prevention (e.g., based on reductions in hospital or pharmaceutical utilization), and these savings could be redistributed to investors—providing a sound business case for the private sector to invest in prevention.

Traditional PPPs, described in the previous chapter, focus on outsourcing tasks, like building a hospital or delivering drugs and equipment. Unlike this type of PPPs; the ecosystem model mobilizes multiple stakeholders around a common goal, such as reducing maternal mortality by a certain percentage over a pre-defined time window. With a focus on outcomes, the partners collectively brainstorm solutions; leveraging innovative business models to finance and deliver sustainable results (see Exhibit 6).

A. Three Principles of the Ecosystem Approach

The ecosystem approach is based on simple principles that address each of the challenges of traditional PPPs (Exhibit 6)

1. Collective Design of Smart and Holistic Solutions

The ecosystem approach requires a forum where stakeholders can consult and agree on a holistic view of health needs and desired outcomes. In this way, crosscutting teams can work together to brainstorm creative solutions (see Exhibit 7). Such a model is used in the water, sanitation, and hygiene in schools program (WASH), a global partnership aimed at providing schools with safe drinking water, improved sanitation facilities, and hygiene education. This program is the result of a collaboration among more than 70 organizations worldwide and has led to a 30 percent reduction in hygiene-related diseases, while reducing absenteeism by 20 to 40 percent.

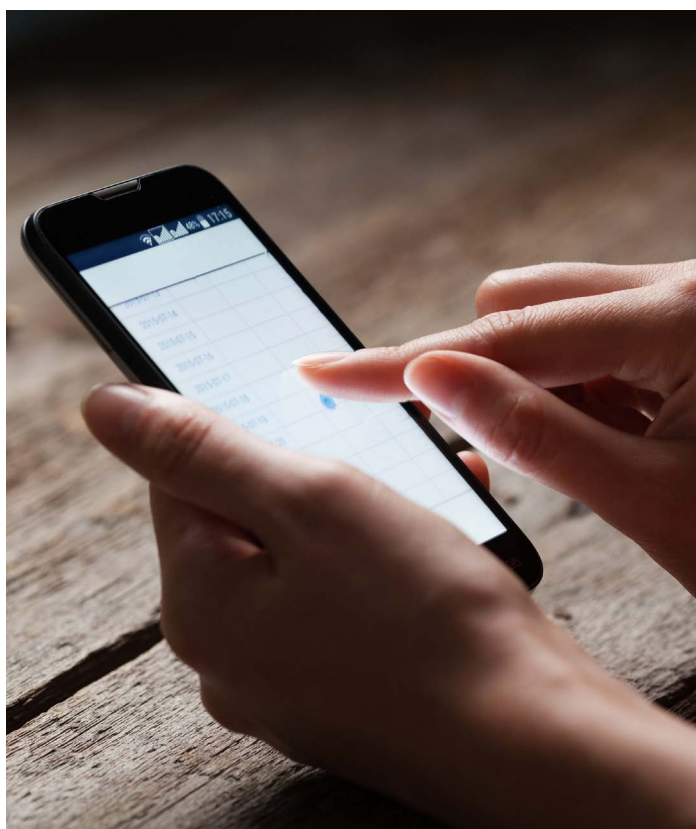
The need for a holistic approach has also emerged in vertical programs. For instance, GAVI, the international vaccine alliance, is increasingly mobilizing new technologies and the private sector to build local ecosystems that integrate supply chain, data-management, workforce training, and other assets into the overall immunization strategy.

Exhibit 7: Innovations in Health Require Contributions from All Stakeholders



1. Not applicable for all types of innovations.

Some mobile technologies are also examples of smart and holistic solutions with great potential to address global health challenges. The sidebar, “Mobile Health Wallet Empowers Consumers,” demonstrates how a mobile app in Kenya that relies on a multi-stakeholder ecosystem is providing a system-wide solution to address gaps in health payments and insurance.



“Mobile Health Wallet Empowers Consumers”

Most Kenyans do not have ready access to basic health care—but mobile phones are becoming commonplace. A new initiative—called M-Tiba—uses mobile phones to administer healthcare payments between patients, payers, and healthcare providers.

The mobile health wallet is transforming financial interactions and benefiting all stakeholders. Patients use the system to save, borrow, and share money for health care at low cost; public and private payers can use the mobile app to offer health care financing—such as vouchers or low-cost insurance—to specific segments of the population; providers receive payments quickly and reliably; and the donor community can reach targeted populations more directly and gain greater transparency into the use of the health care funds they disburse.

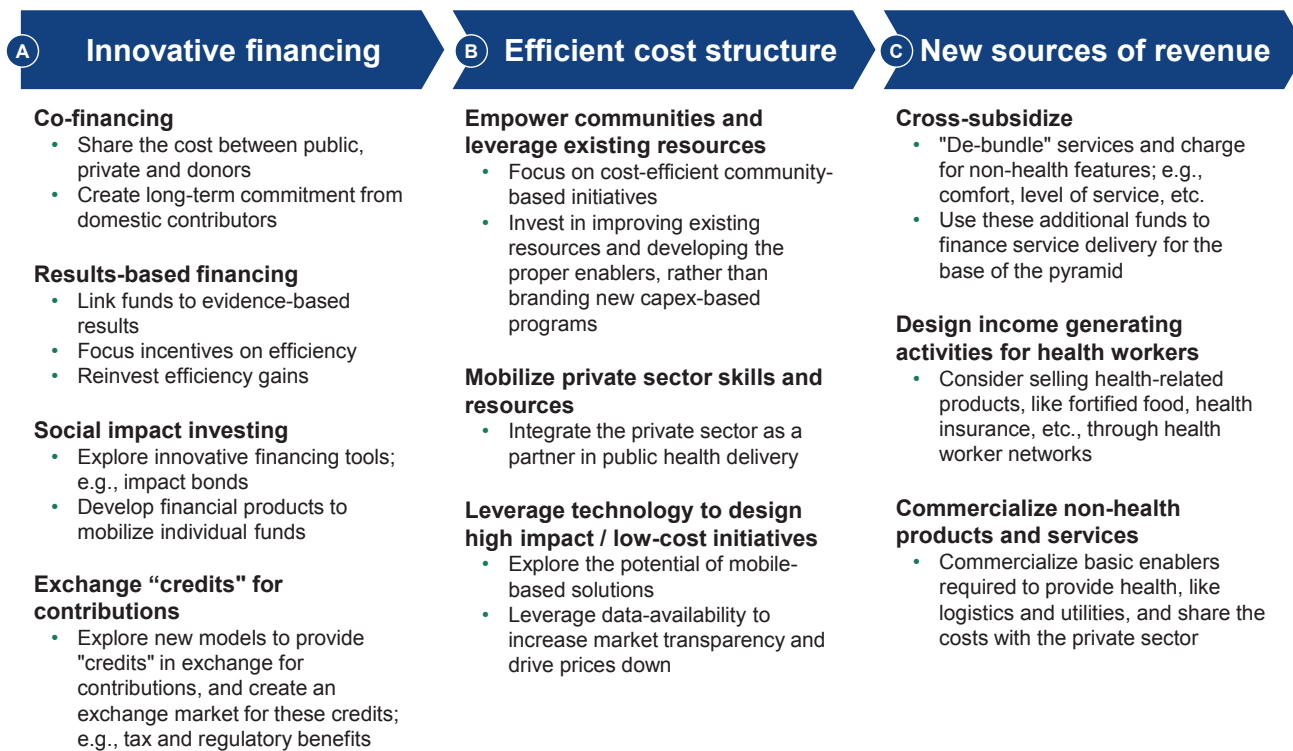
The program offers many far-reaching social benefits as well. Less than 20 percent of Kenyans have health insurance. Kenya’s government has ambitious goals to extensively expand its health insurance coverage (in 2015, for example, they set a goal of insuring another 25 million citizens by year’s end). The M-Tiba system can facilitate this process. The digitization of health records also provides an excellent opportunity to measure outcomes and improve quality, both regionally and nationally. Finally, because providers must meet certain quality control criteria before they can enter the program (by offering standardized services and transparent pricing), patients have better market transparency.

2. Financial sustainability through new business models

For the ecosystem approach to work, partners must ensure financial sustainability by developing innovative structures for financing and investing, leveraging existing infrastructure, and/or creating new sources of revenue (see Exhibit 8).

Exhibit 8: New Business Models for Sustainable Solutions

Levers to integrate into ecosystem-backed innovations



(A) *Develop innovative structures for financing and investing.* Innovative financing solutions can radically alter the dynamics in a partnership to improve risk-sharing and align incentives. The literature identifies four financing and investment structures adapted to the ecosystem approach that encourage financial sustainability.

- *Co-financing structures:* Through creative co-financing initiatives, agreements can be structured to reduce risk for all partners. For example, an agreement may stipulate that if any partner fails to meet its commitment, everyone can withdraw from the partnership. This arrangement encourages partners to take a long-term perspective on financing and ensure they have the capability to manage costs over time. In Nigeria, for example, the Araya scheme uses co-financing to support health insurance for rural communities in Ogun State. The scheme relies on a partnership between the government, the NGO Pharmaccess and African Health Markets for Equity (AHME), a consortium led by Marie Stopes International and funded by the Bill & Melinda Gates Foundation and the UK's Department for International Development (DFID). The Araya scheme aims at covering 100,000 people by 2018, and builds on the experience from the Kwara State Scheme, a similar initiative also supported by Pharmaccess. In order to ensure sustainability, patients are expected to contribute to the scheme, and Ogun State has made a

commitment to contribute NGN100 million to subsidize the less privileged.

- *Results-based financing:* In complex ecosystems, it is critical to offset high transaction costs by maintaining a focus on efficiency, and creating a set of incentives aligned accordingly. A 2014 study estimated the efficiency of health systems in 45 countries in sub-Saharan Africa and found resource waste of approximately 20 percent.¹¹ In a 2015 World Economic Forum survey of chief strategy officers in health, 100 percent agreed with the statement "30% of healthcare spending is wasted."¹² One effective, yet difficult to implement, way to address inefficiencies is through results-based financing. This approach develops mutually agreed-upon metrics and tracks them closely to ensure that programs meet critical milestones—and continued financing is contingent upon meeting these pre-defined results. The Global Financing Facility (GFF), a new financing instrument dedicated to RMNCAH, is using results-based financing to ensure that evidence-based, high-impact interventions are prioritized and delivered in an efficient and measurable manner. In addition to counting inputs, GFF plans to track output and outcomes to ensure that investments are achieving results. In their business plan, the GFF points out that "this reorientation is critical for monitoring progress

and for focusing the attention of both those receiving financing and those providing it on results (which aligns the incentives between the two groups).¹³

- *Social impact bonds*: Social impact bonds are an emerging tool in which private investors fund interventions to improve social outcomes. If outcomes improve, the “beneficiaries” pay back the principal plus a modest return to investors. The beneficiaries can be indirect ones like donors and governments who have specific social objectives, or direct ones like individuals or private payers. This model requires private investors to take on a certain amount of risk, while the executors of the initiative receive upfront funding to provide services. The first and most well-known social impact bond was carried out at Peterborough prison. The seven-year, €5 million project funded rehabilitation interventions for offenders, reducing recidivism by 8.4 percent.¹⁴

This model can also be used in global health. For example, Social Finance Israel is developing a social impact bond that raises capital to deliver interventions for type 2 diabetes. The goal is to reduce development of type 2 diabetes in high-risk pre-diabetics by offering a one-year, personalized intervention program, which includes support from nutritionists and dieticians, free gym and fitness services, exercise and lifestyle counselling, and a personalized electronic device to monitor fitness levels. Under this model, private, institutional, and philanthropic investors provide upfront capital to Social Finance Israel or other intermediaries tasked with funding and supervising the intervention programs. Outcomes are measured based on the number of patients in the program who are diabetic, pre-diabetic, or healthy at the end of the yearlong intervention (in comparison to a control group from similar socioeconomic backgrounds). When targets are achieved, the government and the insurance companies provide a return to investors based on three criteria: reduction of direct diabetes-related medical expenses, reduction of direct diabetes-related disability and income allowances, and increase in economic productivity from increased workforce participation. Another example could be the International Red Cross, that launched during the World Economic Forum Annual Meeting in 2016 a Humanitarian Impact Bond to develop refugee camp infrastructure.

- *Incentives and credits*: Innovative new approaches are being developed to encourage and incentivize companies to invest further in global health. While these models are not yet operational, one example is the Health Credit Exchange (HCX), announced by GBCHealth at the 2015 Financing for Development Conference in Addis Ababa, Ethiopia. Under the HCX, companies will contribute to a donor- advised fund that supports specific global health goals, including projects prioritized by the Global Financing Facility. The HCX will use a “pay for performance” model which provides catalytic funding to providers when outcome goals are achieved, allowing for continued scale-up and improved results. Companies purchase “credits” on the exchange and direct them toward interventions aligned with their priorities. HCX planners are also seeking to

define potential methods to provide tangible value to companies for their credits, such as priority “fast-track” regulatory or registration review for new products. This illustrates how an ecosystem approach to cooperation creates new opportunities to channel and monetize the value created by innovation.

(B) Leverage existing infrastructure and resources. Many communities already have resources in place that can be used to meet health care needs. Creating a collaborative ecosystem allows partners to leverage existing technologies, supply chain and logistics infrastructure, and local networks. Such an approach can make significant headway in designing high-impact, low-cost solutions. Below we have identified three ways that existing resources can be leveraged by the health community.

- *Empower communities*: Local clinics, health care workers, and distributors can be mobilized to disseminate critical health care products. Through the Base of the Pyramid (BoP) project, Novo Nordisk has established partnerships with local communities to improve diabetes care for the working poor in low- and middle-income countries. In Kenya, Novo Nordisk has partnered with the Kenyan Ministry of Health, county governments, the Christian Health Association of Kenya, and the Kenya Conference of Catholic Bishops to build capacity and ensure an adequate supply of diabetes medication. The project keeps diabetes medication costs affordable for patients by monitoring every link in the distribution chain to ensure that vendors do not exceed the agreed-upon price. Through this program, the price for a vial of insulin dropped from \$17 to \$5 between 2013 and 2015.¹⁵
- *Mobilize private sector skills*: Integrating the private sector as a partner in public health delivery, particularly when facing challenges that touch on private sector activities, can provide much needed resources in critical times. UPS, the global package delivery company, mobilized its transportation network during the Ebola crisis of 2014-2015 to combat spread of the virus. The company delivered badly needed supplies to its humanitarian partners in the most affected areas of West Africa, including disinfectant and medical supplies.¹⁶ Similarly, ArcelorMittal, a steel and mining company, used its machinery and workforce to construct isolation wards and temporary Ebola treatment centers in Liberia.¹⁷
- *Leverage technology*: Technology has enormous potential to provide high-impact, low-cost health care solutions. The African Medical & Research Foundation (AMREF) has developed a virtual training school to educate nurses, midwives, doctors, and other community health care workers. The educational content is delivered via the Internet, videotape, satellite TV, or CD. This online education program has allowed for the training and graduation of seven times more nurses than would have been possible otherwise.¹⁸

(C) *Create new sources of revenue.* The trend toward diversifying revenue will need to continue as emerging economies seek sustainable business models. We see three opportunities for organizations to diversify their revenue.

- *Tap into new revenue sources:* The private sector, as well as middle- and high-income individuals, can subsidize low-income populations through tiered pricing models. Aravind Eye Care System, in India, treats more than 2.8 million people every year. All patients receive the same level of surgical care, but wealthy patients can opt for private, air-conditioned rooms and other benefits during their stay. By extracting a premium from the wealthy, Aravind can subsidize the indigent—more than half of their patients receive treatment at virtually no cost.¹⁹
- *Design income generating activities for health workers:* Commercial activities enable community health workers to earn additional income, while simultaneously scaling up outreach efforts. Living Goods, a non-profit operating in Uganda, Kenya, and Myanmar, supports networks of ‘health entrepreneurs’ who go door to door to teach families how to improve their health. These workers sell simple treatments for malaria and diarrhoea, contraceptives, fortified food, clean cook stoves, water filters, and other health-related products, making a living by earning a margin on each product sold.
- *Commercialize non-health products and services and share costs with the private sector:* Private enterprise can be engaged to create sustainable businesses that address existing gaps in health care while serving both health and non-health customers. VillageReach used this model to address vaccine shortages in Mozambique. They faced two significant barriers: 1) the majority of health centers were off the electric grid, and 2) the supply chain for vaccines (which require refrigeration) was not well developed. To address these critical gaps in the infrastructure, VillageReach partnered with the Foundation for Community Development, a Mozambique-based community development organization, to create a for-profit energy distribution company, VidaGas. This new business delivered liquid petroleum gas, which had many uses beyond the delivery of vaccines and other medical supplies. VidaGas has now become the largest propane distributor in northern Mozambique, and the majority of its customers are now restaurants, hotels, small factories, and individual households. The energy company has been extraordinarily successful in raising vaccination rates as well. In 2002, when the company was started, vaccine stock-outs were above 80 percent and 68 percent of children under the age of five were not fully vaccinated. Today, vaccine stock-outs have dropped to less than 3 percent and 95 percent of children under five are fully vaccinated.

3. Evidence based decision-making

The final principle of the ecosystem approach is to ensure decision-making is based on mutually agreed and available data. In the earliest stages of a new initiative, partners should define and agree on the metrics that will be used to track performance and measure outcomes. This requires dedicated resources and rigorous analysis across a project’s entire lifecycle.

- *Establish a program or project management office (PMO):* A PMO plays a crucial role by actively supporting the implementation of key strategic programs. Nigeria, one of the first countries to test out the leapfrogging approach to transformation, focused on a package of mutually reinforcing leapfrogging initiatives, primarily in health care. The leapfrog initiative in Ogun state, Nigeria relies upon a centralized PMO run by AHME partners.²⁰ The PMO tracks milestones, provides visibility into progress, identifies gaps and bottlenecks, and fosters collaboration among initiatives.
- *Measure impact and cost:* Rigorous measurement and analysis must be maintained throughout the project’s lifecycle. This can be done by the PMO itself or by independent academic institutions or other partners with monitoring and evaluation capabilities. The NGO living goods consistently tracks the impact of its community health promoters, measuring the number of people diagnosed and treated for malaria and diarrhoea, pregnancies supported, post-natal visits, and other key metrics. In addition, Living Goods’ overall impact on children’s health was measured through an independent, three-year randomized evaluation completed by the Children’s Investment Fund Foundation which covered 200 villages and 8,000 families, demonstrated a 27 percent reduction in under-five mortality.²¹



B. Four Ecosystem Models for Health

The ecosystem model holds the potential for radical transformation—and this model has already created enormous disruption in other industries. In the telecommunications industry, for example, a multitude of players—many of them competitors—collaborated to achieve the industry-wide shift from fixed cable to mobile and wireless. Mobile has since become a massive platform, allowing a diverse community of innovators to disrupt almost every industry through the introduction of new products and services.

The goal of the leapfrogging approach is to facilitate similarly radical transformations in health care. As illustrated earlier, there is a wealth of health-related innovations with extraordinary potential—and the enablers to scale them up. The challenge now is to create ecosystems that will trigger the kind of widespread transformation such as the one we have seen in telecommunications. What would that ecosystem in health look like?

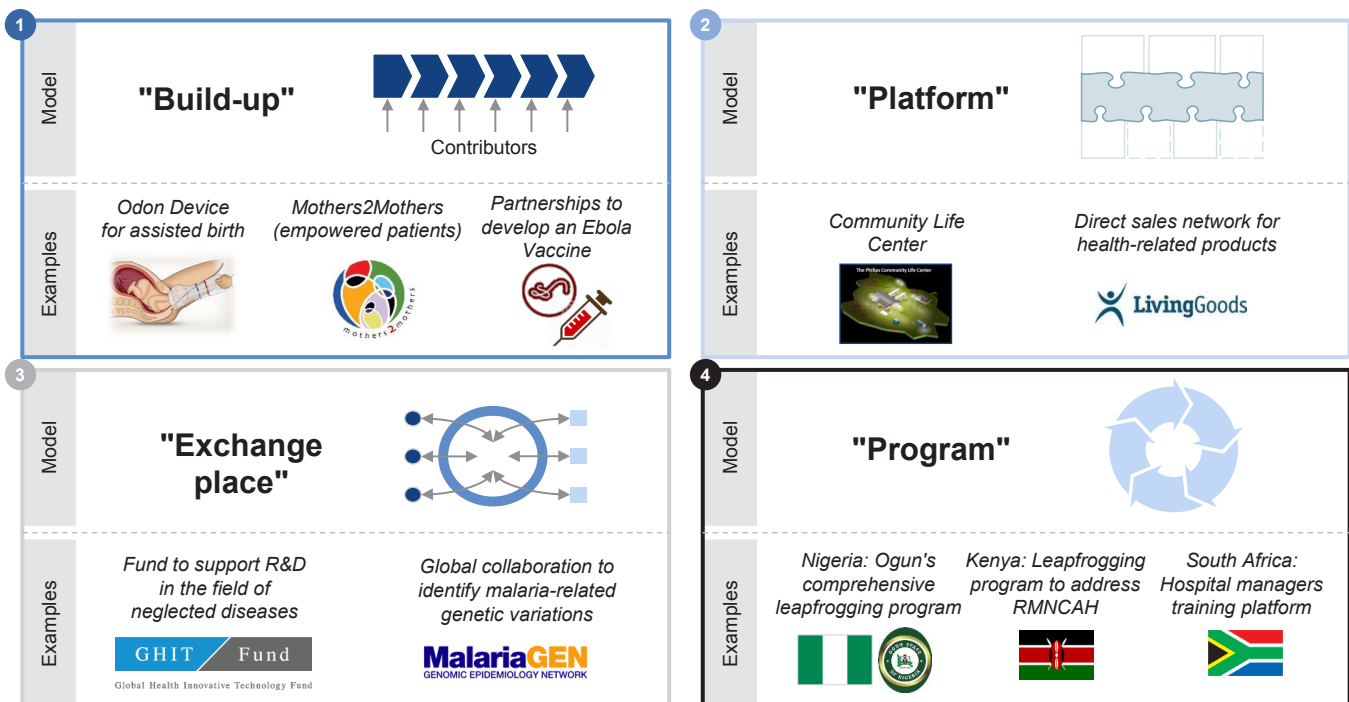
We defined four ecosystem models that can serve as the foundation for leapfrogging efforts in emerging economies: build-up, platform, exchange place, and program (see Exhibit 9).

Build-up Ecosystems. The build-up ecosystem model starts with a promising innovation, like a medical device or a

drug. Multiple organizations support the innovation over the course of its development, sharing the risks and rewards. To function smoothly, build-up ecosystems need a single player to orchestrate all activities and carefully define the resources needed at each stage of development.

This model was used successfully to develop the Odón Device, a simple medical device used to assist with difficult births. An inflatable plastic sleeve is slipped around the baby's head to gently pull the newborn through the birth channel. The device has moved from prototype to final design, manufacture, quality control, and clinical studies via the build-up ecosystem. The idea started with a single inventor, Jorge Odón, a mechanic in Argentina. The World Health Organization championed Odón's innovation and identified a commercial partner, Becton-Dickinson (BD), to manufacture the device. Funding was secured from multiple donors, including the United States Agency for International Development, Grand Challenges Canada, the Bill & Melinda Gates Foundation, and the government of Singapore. BD partnered with the International Federation of Gynaecology and Obstetrics (FIGO) to jointly define guidelines for the new device, and collaborated with NGOs and local communities to train health workers and integrate the device into local medical practice. By uniting multiple stakeholders, all committed to the product's success, the build-up ecosystem allows for maximum adoption of innovative health care solutions while also providing a strong foundation of financial stability.

Exhibit 9: Four Different Models of Ecosystems for Leapfrogging in Healthcare



Source: "Entrepreneurship and Strategic Thinking in Business Ecosystems" –Zahra & Nambisan(2004); "The Global Brain" Nambisan& Sawhney(2007), BCG analysis.

Platform Ecosystems. This model starts with a core platform that can be enhanced by additional modules from various players. The platform is enriched by the addition of modules, but not directly dependent upon them, so it is versatile and can adapt to evolving needs.

Philips' Community Life Centers, developed to improve primary care in Africa, rely on the platform ecosystem. The Community Life Center turns a primary health facility into a community hub, offering products and services to the community beyond health care. For instance, the clinic sells clean drinking water, electricity, solar lighting products, and access to the Internet. These services are all needed by the clinic, but they can also improve quality of life in the community and allow the health facility to generate income to sustain itself. Philips designed their clinics to be modular and scalable so they can be customized to meet the specific needs and circumstances of unique customers and health facilities. By providing a platform upon which local populations can layer needed services, the ecosystem benefits not just patients but the entire community.

Exchange Place Ecosystems. The exchange place ecosystem offers a single hub where individuals and organizations can share data, ideas, know-how, and resources. These networks facilitate collaboration, data analysis, monitoring, scale-up, R&D, and many other capabilities. The most successful ecosystems have built up a critical mass of stakeholders and established rules of behaviour to promote open and honest collaboration.

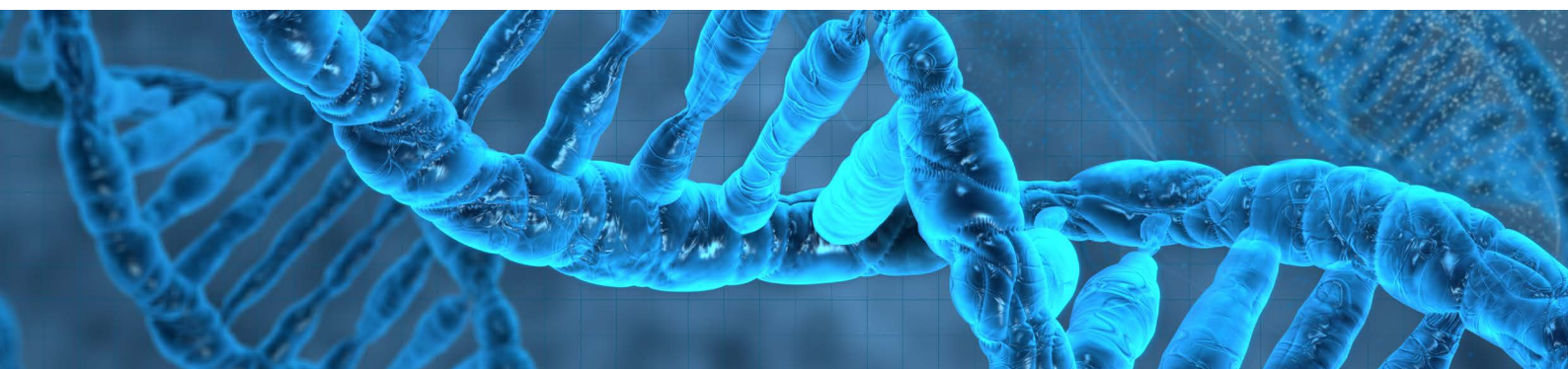
The Malaria Genomic Epidemiology Network (MalariaGEN) represents a good example of how an exchange place ecosystem can enhance and accelerate global research efforts. MalariaGEN is an online data-sharing community for investigators working to understand how genome variations affects the biology and epidemiology of malaria. The MalariaGEN community is made up of more than 100 researchers in over 20 countries, bringing together the work of many different studies in malaria-endemic regions of the world. The network provides access to genotyping and sequencing technologies and a framework for sharing and integrating data. This ecosystem approach allows researchers to avoid duplication of efforts and build on the work of their colleagues, accelerating the pace of malaria research.

Program Ecosystems. The program ecosystem unites numerous mutually reinforcing innovations under a single umbrella. No single innovation is essential to the program's

success; rather, numerous innovations aligned to a common vision can be transformative at a system level. Innovations can be swapped in and out as needed, allowing for a flexible, agile approach to development and constant improvement. To succeed, these ecosystems require a strong vision, a flexible model, and close coordination.

During the three-year leapfrogging initiative, various country engagements have provided opportunities to begin testing the initiative's findings and recommendations. In Ogun State, Nigeria, the leapfrogging project supported the design and implementation of a comprehensive package of initiatives tackling demand and supply challenges in primary care. On the demand side, the program addresses challenges in demand generation, primarily through the Araya scheme. On the supply side, public and private stakeholders collectively designed 14 initiatives addressing multiple challenges, including service delivery, e-training, upgrading healthcare equipment, and sourcing of medical products, to name a few. It also addresses key enablers like providing electricity and water to facilities, enhancing transport logistics, and cold storage. The results in Ogun are still preliminary, but it is estimated that Ogun will reach its objective of a 70 percent coverage rate three times faster and 25 percent cheaper than would have been possible with a traditional development approach²².

Similarly, in Kenya, the leapfrogging project supports the public-private dialogue on behalf of the H4+ Partners²³ "6 County Initiative" for RMNCAH. This initiative aims to design a financially-sustainable and comprehensive program to tackle maternal mortality. It is spearheaded by the United Nations Population Fund, in close partnership with Kenya's National Ministry of Health and county health authorities—and with official support from major corporations like GSK, Huawei, Merck MSD, Philips, and Safaricom. The program focuses its efforts on six counties²⁴ in Kenya that account for more than 50 percent of maternal deaths (though they represent just 10 percent of the overall population).²⁵ The World Economic Forum supported this dialogue, allowing stakeholders to identify nearly 20 potential solutions (including models like the Philips Community Life Center, mobile diagnostic equipment, telemedicine, and task-shifting). In addition, the Kenyan Healthcare Federation and the UNFPA set up a private sector RMNCAH Collective Action "Secretariat" to serve as an interface between sectors, facilitating the integration of additional partners and coordinating the various initiatives.²⁶



C. A New Generation of Partnerships: The GFF Example

Some partners have already embraced the ecosystem approach to partnerships. While in its infancy, the Global Financing Facility (GFF), mentioned earlier, has taken the lead in advocating new models to end maternal and child mortality by 2030. With an estimated \$33.3 billion annual funding gap for RMNCAH, extraordinary levels of coordination and collaboration will be required to meet these ambitious targets.

The GFF strategy relies on creating a cooperative and innovative ecosystem between the public sector, private companies, and international organizations. In order to do so, it uses many of the principles advocated in this report:

- *Collective design of smart and simple solutions:* The GFF plans to operate at the country level via a multi-stakeholder platform to collectively build a case for a three- to five-year investment at the national level. Initiatives will be led by national governments, but the private sector, civil society, multilateral and bilateral donors will be actively engaged. The goal is to deploy an integrated, system-wide approach toward strengthening health care delivery, prevention, and health systems as a whole. In addition, the GFF will have the flexibility to finance investments outside the health sector, including education, clean water, and sanitation.

In addition, the GFF is developing an innovation marketplace in order to identify, fund, and scale up relevant innovations for RMNCAH; this is co-financed by the multi-stakeholders partnership. It is a clear example of how the “exchange place” ecosystem and its open-innovation principles are starting to emerge in the global health arena.

- *Pursue new business models for sustainable solutions:* The GFF extensively explores co-financing and

results-based financing to improve sustainability. It mobilizes three key sources of funding: public and private domestic financing; GFF Trust Fund and International Development Association/ International Bank for Reconstruction and Development resources; and additional donor resources, such as GAVI, the Vaccine Alliance, the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria, and bilateral assistance. In addition, the program aims at tapping into new investors in the global health space by developing South – South collaboration (a broad framework for collaboration among countries of the South). The GFF is implementing innovative financing to achieve sustainability. Going forward, they could also benefit from exploring efficient cost structures and new sources of revenue.

- *Track performance:* The GFF will prioritize interventions with a strong evidence base demonstrating impact. It will also develop civil registration and vital statistics systems in target countries to measure improvements in real time.

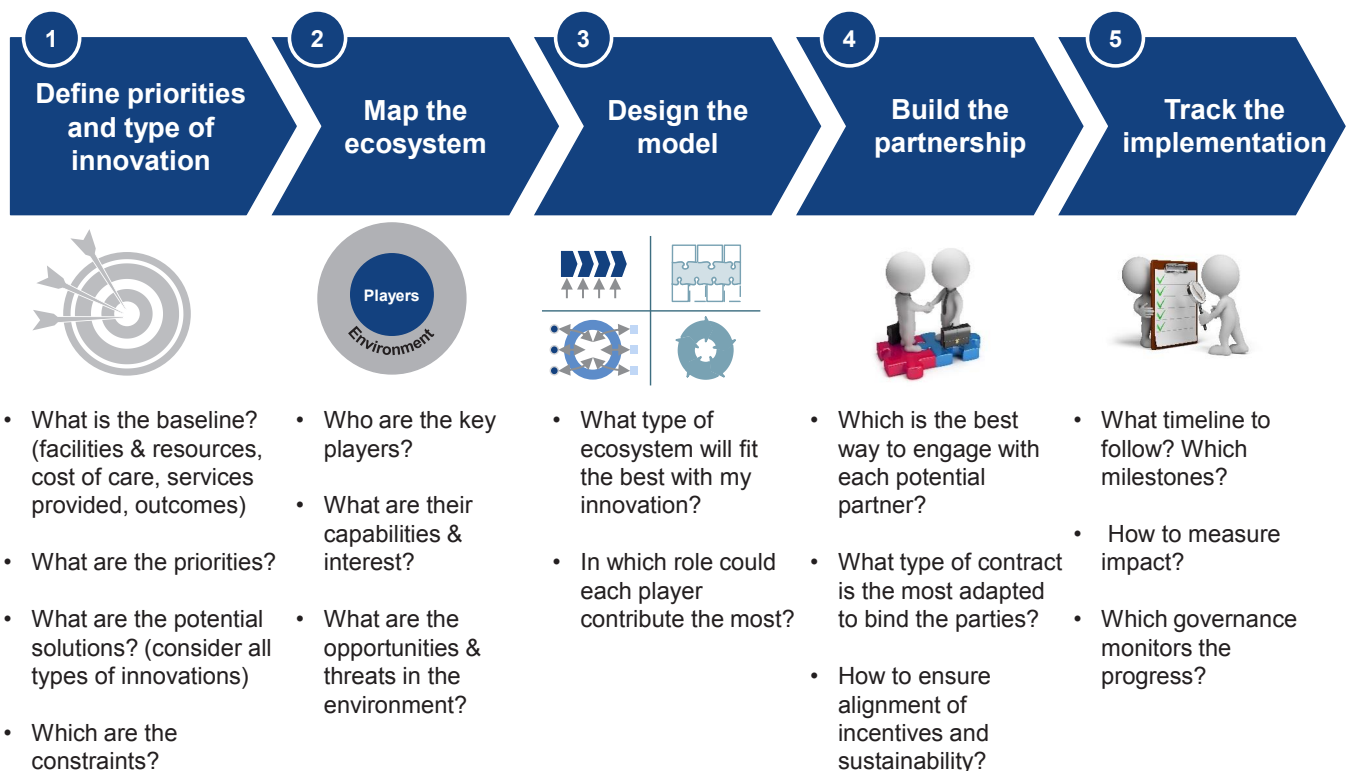
A collaborative strategy does not come without challenges. Many questions remain: How do we define and track accountability and ownership in a multi-stakeholder partnership? How do we align incentives and create a common vision among different stakeholders across different spheres (global, national, and local)? How do we select which innovations to fund given the collaborative decision making process and how do we ensure the innovations that are funded are self-sustainable in the long run? How do we ensure quality and consistency in planning, implementation, and tracking across all partners? How do we provide fast and actionable support when the partnership is intermediated by a myriad of dialogues and approval requirements? While these hurdles are not minor, we expect frontrunners like the GFF will provide meaningful answers that will help the next wave of partners integrate the ecosystem approach into their global health development strategies.



Section IV. How to Implement the Ecosystem Approach

When implementing the ecosystem approach, a series of questions should be addressed at each stage in the journey. These questions are designed to help organizations define priorities, identify appropriate partners, design the most appropriate model, build the partnership, and measure its impact (see Exhibit 10).

Exhibit 10: Roadmap to Implement the Ecosystem Approach



Define Priorities. The first step in implementing the leapfrogging approach in emerging economies is to conduct a comprehensive assessment of the existing landscape, including inputs (e.g., current funding, existing facilities, and resources allocated toward health care), outputs (e.g., the number and quality of health care services provided), and outcomes (current health status of the population). A thorough analysis of these factors must be carried out to establish a clear understanding of existing gaps and needs. With this data in hand, all stakeholders must work together to align on priorities—with broad engagement from the public sector and local communities. The problems to be addressed must be broad enough to invite innovative solutions but targeted enough to be actionable. A specific set of key performance indicators should be defined upfront.

Map the Ecosystem. Before engaging in any health agenda or geographic area, organizations need to map out the players already working in this area, identify potential allies, and stake out any potential roadblocks. Successful organizations invest heavily in this kind of early stage analysis, as a thorough understanding of political, economic, cultural, and market forces is necessary to operate with minimal friction.

When launching a new program, organizations need to decide how widely to cast their net. Large and inclusive discussion forums can build consensus, but they can also dilute the message and delay decision-making. Small committees, on the other hand, may expedite decisions but limit buy-in from the larger community. A neutral organization can be brought in as a mediator to help frame the debate, unite disparate interests, and create consensus.

Design the Model. The private sector must resist the temptation to simply replicate prior initiatives or promote existing products that have been used in different settings. Leapfrogging depends upon innovation. This may come in the form of new funding structures, new technologies, new operating models, or new incentives. The innovation will dictate what type of ecosystem is most appropriate (build-up, platform, exchange place, or program). Once the model has been designed, a roadmap for scale-up must also be defined.

Build the Partnerships. Designing and launching effective, long-lasting partnerships can be a daunting task. Successful partnerships are built on bulletproof agreements with clear commitments from all parties, clauses to address non-compliance, and clear exit strategies for donors and other short-term investors. By ensuring high levels of transparency from the outset, avoiding the ‘process trap’ of long, drawn-out negotiations and bureaucratic hurdles, and building in clear incentives for the partners to contribute, partnerships can hit the ground running.

Track Implementation and Impact. To track progress and measure outcomes, partners should create a dedicated and impartial project management unit. This unit is responsible for the program implementation, including a rigorous data analysis to ensure that costs are in check, milestones are being met, and the program is achieving its goals. Every effort should be made to gather impact data, and emerging mobile technologies offer a wide range of options for data analysis. Having said that, there are some extremely valuable interventions—like prevention and education programs—that do not readily lend themselves to data analysis. These efforts are entirely worthwhile and should not be excluded simply because they are difficult to assess.



V. A New Mind-set for Ecosystems

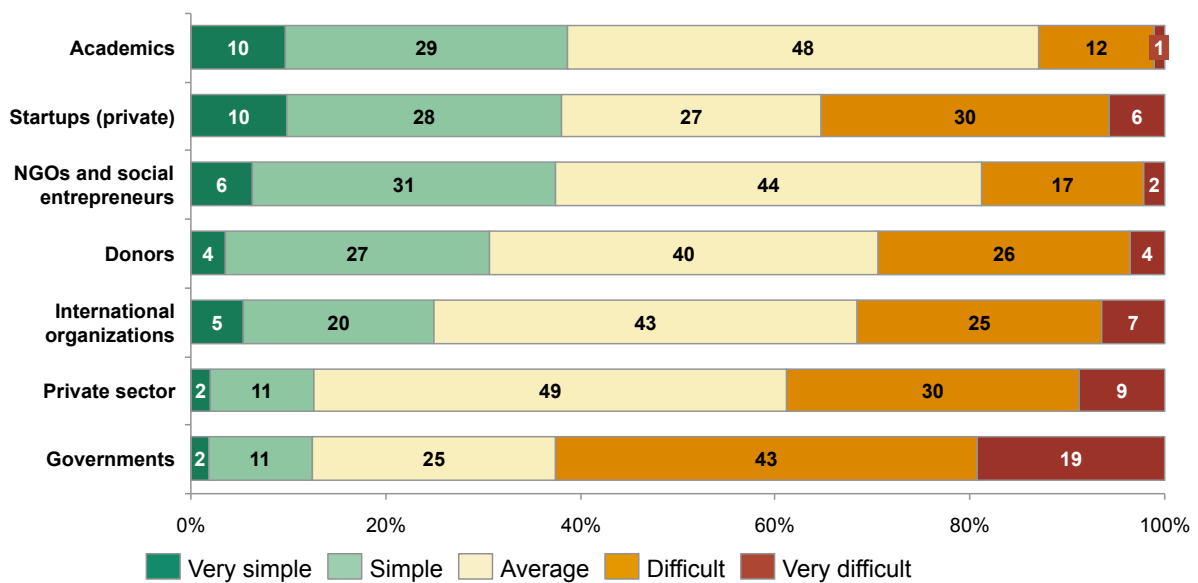
“We need to change the mind-set. It is possible to have a collaborative relationship with the private sector.” — Sathasivam Subramaniam, Minister of Health, Malaysia, World Economic Forum Annual Meeting of New Champions, Dalian, China, September 2015

While most organizations partner strategically, the collaborative process presents several challenges. This is particularly true with large organizations in the public sector (see Exhibit 11). However, partnerships and collaborations

are continuing to grow in number. A majority of those surveyed (75 percent) believe that by 2025 at least 50 percent of new drugs and medical devices for emerging economies will be developed through partnerships between private companies and academia, NGOs, or governments.

Exhibit 11: Governments Appear as the Most Challenging Partner, but Level of Difficulty is High for All Stakeholders

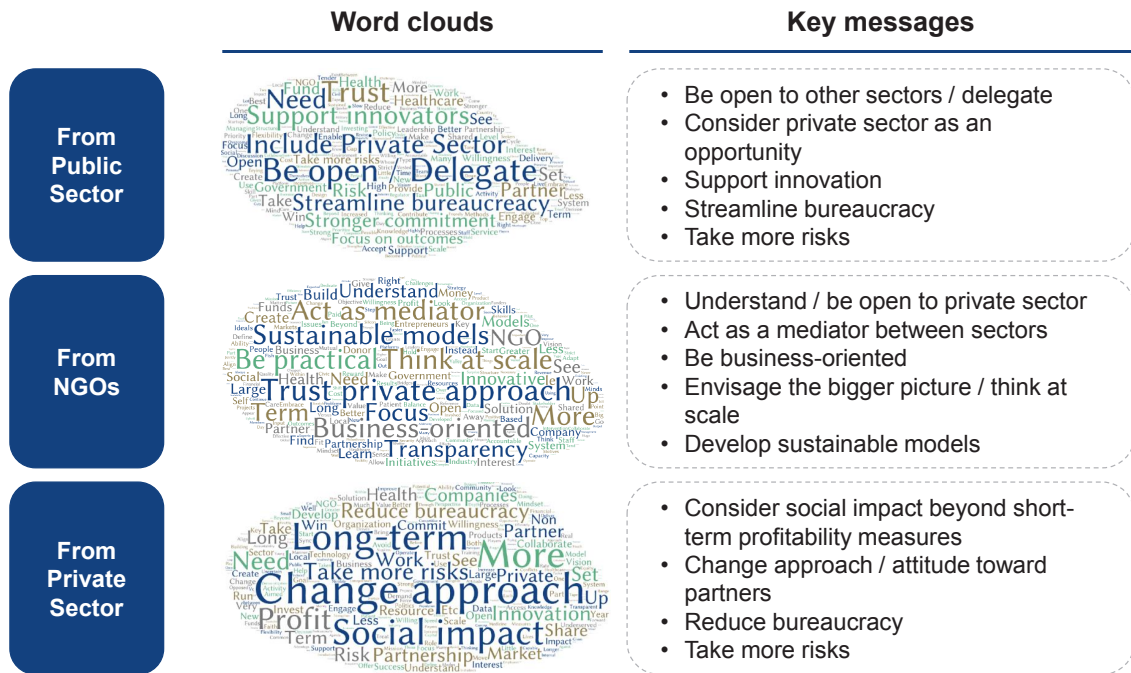
How easy / difficult is it to partner with ... ? (% of respondents)



Source: Leapfrogging survey, BCG analysis

For emerging economies to create successful ecosystems that support innovation, the frameworks discussed in this report provide a tangible starting point. Nevertheless, a change in mind-set is also needed (see Exhibit 12).

Exhibit 12: Change in Mindset Is Needed to Create an Effective Ecosystem Supporting Innovation



Source: BCG analysis from survey on partnerships; Word clouds have been obtained using Tagul (<http://tagul.com>) with additional modifications

- **Governments:** Governments should not see partnerships as a “necessary evil” when existing resources cannot meet the needs of their populations. The private sector is gradually taking on a more meaningful role in public health and partnerships provide an opportunity for the public sector to access cutting-edge products and services. In addition, partnerships should not be constructed around simple transactions; they require active engagement from both sides. With flexibility, an open mind-set, and willingness to think creatively, governments can make meaningful progress on their health agendas.
- **NGOs:** NGOs can play a more strategic role in helping public and private players define their agendas and priorities. They have technical, on-the-ground knowledge and a capacity to innovate, all of which is extremely valuable to organizations looking to transform health systems. As partnerships become more complex, NGOs can also function as neutral mediators to help find common ground and measure progress. Finally, and perhaps most importantly, NGOs will need to take a more business-savvy approach to their endeavours. In our survey, 71 percent of respondents said they believe that by 2030, not-for-profit organizations in health will have to cover at least 50 percent of their expenditures with revenues from their activities (and not with donors’ funding). With the decline in large corporate social responsibility programs, NGOs will have to reinvent themselves in order to justify their value and create sustainable

social impact. This will require close cooperation with the public and private sector—without in any way compromising their core values.

- **Private sector:** Large, private health companies need to balance their investment priorities between short-term profit generation and social development, acknowledging that the latter will contribute to the long-term success and value of the company. Corporate social responsibility is an effective approach but on the decline as a poverty alleviation tool, given its limited scalability; and bottom-of-the-pyramid investments should shift toward a shared-value approach. This can be accomplished by making an investment to identify and design the best solution without compromising the long-term objective of creating a financially sustainable solution.

To make this shift, an emphasis on social impact must be incorporated into a company’s overall corporate strategy. A small, isolated social impact or health system unit may have difficulties in collaborating with large country teams evaluated primarily on profitability. Senior leaders in the private sector must articulate the value of social initiatives, both from a humanitarian and business perspective. As the global sustainable development goals gain momentum, companies that can articulate how their strategy and products contribute to these goals will be well situated to benefit from this movement.




Health is one of the most complex challenges of our time—and large-scale change is never easy. Nevertheless, ecosystem models have already shown extraordinary promise in helping emerging economies leapfrog. By mobilizing and coordinating a large and diverse community of stakeholders, the ecosystem model paves the way for countries to take advantage of high-impact, mutually reinforcing innovations that are cost-effective and scalable.

Our leapfrogging initiatives in Kenya, Nigeria, and South Africa have facilitated discussions between public and private stakeholders, and reframed the dialogue around traditional public-private cooperation in health. In convening leaders from local business, government, international

organizations, and civil society to set up successful public-private partnerships around a concrete set of leapfrogging initiatives, we have seen striking levels of enthusiasm for the ecosystem model (see Exhibit 13). The insights gathered over the course of this three-year study will allow all emerging economies to take great strides toward their vision of an ideal health system.

We look forward to welcoming more countries and partners on this journey.

Exhibit 13: The Leapfrogging Programs Launched will serve as an Example for Emerging Economies

	 Nigeria (Ogun State)	 Kenya (6 Counties)	 South Africa
Challenge	Lack of sustainable demand; and affordable and high-quality primary care health services	High-maternal deaths, concentrated in 6 counties (accounting for 50%)	Lack of management skills and support tools for hospital managers
Leapfrogging program	<ul style="list-style-type: none"> Subsidized health insurance program “Araya” 14 innovative PPP initiatives to improve supply, 7 draft MoUs 	<ul style="list-style-type: none"> Long term commitment from 5 multinationals 17 innovative PPP initiatives, 2 pilots Setup of a Secretariat for multilateral coordination 	<ul style="list-style-type: none"> Design of an online platform linking KPIs to specific training tools
Impact	Target of covering 100k people by the end of 2018	Target of reaching 3.5 million mothers and children by 2020	Target of reaching all hospital managers in a first phase, then to be extended to all levels (local clinics, etc.)
Next steps	<ul style="list-style-type: none"> Transfer project PMO to the Ogun State gov. Consolidate and ensure funding for Araya program and all the PPP initiatives Replicate in other states 	<ul style="list-style-type: none"> Scale-up pilots Detail initiatives and funding Expand partnership (incl. local companies) Replicate in other Kenyan counties / GFF countries 	<ul style="list-style-type: none"> Open all dimensions of the project to all interested Private parties (equality among players)–RSA gov. Agree on long-term “win-win” partnership with Private sector - RSA gov.

Source: Ogun PMO, UNFPA, BCG analysis

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